

ARIZONA MEDICINE

Journal of ARIZONA MEDICAL ASSOCIATION

VOL. 11, NO. 9



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Original ARTICLES

TREATMENT OF UNDESCENDED TESTES*

J. B. Chastain, M.D., L. K. Newlin, M.D.

Columbus, Georgia

CONTROVERSY as to the relative values of medical and surgical treatment of undescended testes began several years ago and has continued to the present time. Different observers have advised the institution of hormonal therapy at ages varying from 3 years to puberty. (1, 2). Others have united in condemning medical treatment of undescended testes but have been divided in opinion as to the proper time for surgery.(3, 4).

There are several reasons for instituting treatment in patients having undescended testes. Since the body temperature is too high for the production of sperm in an undescended testicle, sterility may result if involvement is bilateral. Sterility occasionally occurs with unilateral involvement when trauma or infection has damaged the descended testicle. Undescended testes are also known to be especially prone to torsion and to injury. Cosmetic disadvantages and possible psychic trauma are additional reasons for treatment of such patients.

The purpose of this communications is to (1) present the results of the medical treatment of 27 patients having undescended testes, and (2) bring out some of the arguments which may be presented for both medical and surgical treatment.

Patients reported and discussed in this paper have undescended testes as isolated defects and are otherwise normal.

*The authors wish to acknowledge the assistance of Dr. Morris S. Fleischman, Brigham City, Utah.

INVESTIGATION

This investigation took place at a large school operated by the federal government for the education of Navajo Indian children. All 1301 boys between the ages of 11 and 18 years were examined for undescended testes as part of their entrance physical examination. From this number 27 boys (2.08%) were found to have either unilateral or bilateral undescended testes. This incidence for Navajo Indians closely parallels that of the white population. Five (18.5%) of the 27 patients had bilateral involvement. About 10% of cases of undescended testes in the white population have been reported as being bilateral.(5).

All 27 patients had four separate examinations under different conditions by two physicians. A special effort was made to avoid migratory testes which may be found at times in abnormal positions such as the root of penis or in Scarpa's triangle but which move into the scrotum permanently at puberty.

These patients were all given chorionic gonadotropin, 500 units intramuscularly, 3 times weekly for 6 weeks. This drug is the gonadotropic substance secreted by the placenta and derived from human pregnancy urine. Through similar to anterior pituitary gonadotropin, chorionic gonadotropin has a more specific action. The latter drug stimulates the production of androgenic hormone by acting directly on the interstitial cells of the testes.(6).

At the end of the 6 weeks treatment, a total

of 9 patients (33.3%) were found to have obtained excellent results with this therapy. In addition to the benefits derived by these 9 patients, treatment resulted in the descent of one testicle in each of 2 patients having bilateral involvement. Results were rather easy to classify since most of the patients could be placed in one of two categories, those benefitting greatly, and those benefitting little or none.

Twelve of the younger patients began de-

veloping pubic hair and mild genital growth as the treatment neared completion. Of these 12 patients who developed secondary sex characteristics, 6 responded to treatment and 6 did not.

Of the 27 patients treated, 9 patients had clinically detectable inguinal hernias associated with undescended testes. Testes failed to descend in all 9 patients having hernias.

Table I shows the individual response to treat-

TABLE I
PATIENTS TREATED WITH CHORIONIC GONADOTROPIN

Patient	Age	Involvement & Position of Testes before treatment	Pubertal Changes	Descent with treatment
S.B.	17	Right-Mid canal	Well established	No
C.C.C.	16	Right-Low canal	Well established	No
L.S.	15	Left-Mid canal, atrophic	No	No
D.L.	15	Right-Mid canal	No	Yes
D.L.B.	15	Right-Mid canal, atrophic	Early	No
		Right ing. hernia		
K.D.	15	Right-Low canal	Well established	No
K.S.B.	15	Bilateral-Left, low canal	No	Left-Yes
		Bilateral-Right, high canal		Right-No
		Right ing. hernia		
T.B.	15	Right-Low canal	No	No
T.Y.	14	Right-Mid canal	No	No
		Right ing. hernia		
L.J.	14	Right-High canal	Well established	No
R.J.L.	14	Bilateral-Left, high canal	No	Left-Yes
		Bilateral-Right, Abdominal		Right-No
W.C.	14	Bilateral-Left, low canal	Early	Left-No
		Bilateral-Right, low canal		Right-No
		Ing. hernia, bilateral		
A.B.	14	Left-abdominal	Early	No
B.D.	14	Bilateral-Left, high canal		Left-No
		Bilateral-Right, high canal	Early	Right-No
		Ing. hernia, bilateral		
T.K.Y.	14	Bilateral-Left, high canal	No	Left-Yes
		Bilateral-Right, high canal		Right-Yes
D.Y.	13	Right-low canal	No	Yes
N.B.	13	Right-Mid canal	No	No
		Ing. hernia, right		
H.C.	13	Right-Mid canal	No	Yes
S.W.	13	Right-Mid canal	No	No
W.T.	13	Right-Mid canal	Early	No
R.B.M.	13	Right-Low canal	No	Yes
E.T.B.	13	Left-Low canal	No	Yes
A.A.	12	Left-low canal, atrophic	No	No
		Ing. hernia, left		
G.C.T.	12	Right-Mid canal	No	Yes
D.B.	12	Left-Low canal	Very Early	No
J.Y.N.	12	Right-Abdominal	No	Yes
D.S.	11	Right-Low canal	No	Yes

ment. It is readily seen that patients with pubertal changes are less apt to benefit by hormonal therapy than are younger patients. Also patients with abdominal or "high canal" testes are less apt to respond than others whose testes are nearer the scrotum.

As has been suggested,(2) the 18 patients not responding to chorionic gonadotropin were given testosterone, 20 mgm. intramuscularly, 3 times weekly for 4 weeks. There was no apparent benefit from testosterone in any of the 18 patients who had failed to respond to chorionic gonadotropin.

About 3 months after cessation of treatment with chorionic gonadotropin, one of the patients benefitting by this therapy (H.C.) showed regression of the affected testicle to a low canal position. The other 8 patients who had responded to chorionic gonadotropin were unchanged. The younger boys who had developed secondary sex characteristics while under treatment began to lose these features about 3-4 months after cessation of testosterone therapy.

ADVANTAGES OF HORMONAL THERAPY

Routine use of the medical treatment of undescended testes reduces the number of patients requiring surgical correction of this defect. Since surgery is usually not performed in any case that might be readily amenable to medical treatment, this is the most persuasive argument that can be presented. Treatment with chorionic gonadotropin has given good results in 20 to 50% of patients reported, the benefits depending on the age and type of involvement. In general, patients past puberty and patients having intra-abdominal testes (cryptorchidism) show poor response to either chorionic gonadotropin or testosterone. Thompson and Heckel reported beneficial results in only 2 of 34 patients having intra-abdominal testes.(7) Intra-abdominal testes are usually atrophic and non-functional, therefore surgical results are no better.

In some cases the results obtained from surgical correction may interfere with the normal blood supply to the testes and result in poor testicular growth and development.

As in one case reported in this paper, an occasional patient will apparently improve under treatment only to have the affected testicle regress toward the previous abnormal position after treatment is completed. The improvement

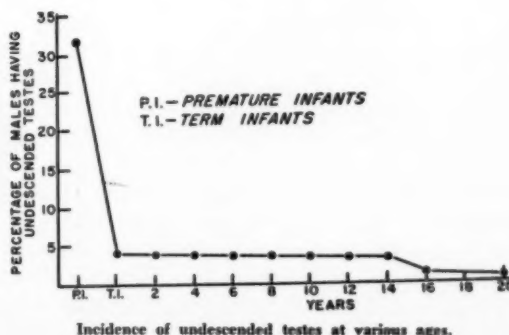
with hormonal treatment is of value, however, since this response contraindicates surgery and suggests that the affected testicle will descend permanently at puberty.

Although inguinal hernias are very commonly associated with undescended testes, a good portion of these hernias are undetectable clinically and would not require operation. Medical treatment of patients having undescended testes associated with inguinal hernias is not feasible in most cases since the patient cannot hope to avoid surgery. The use of medical treatment in such patients is primarily of academic value.

It is generally agreed that testes which descend after hormonal therapy would descend spontaneously at puberty unless hypopituitarism with resultant hypogonadism should exist. Most physicians prefer not to wait until puberty for operative correction of undescended testes, however, and hormonal therapy is of great value as an indicator of those who will require surgery. The principal argument for early treatment (3 to 6 years) is based on the fact that the physician is able to determine rather quickly which patients will not respond to medical treatment and will require surgical correction of anatomical disorders preventing testicular descent. Most physicians using hormonal therapy believe that medication should be instituted after age 10 or 12 and before puberty is reached. There is apparently no difference in testicular size whether medical or surgical treatment is used to effect a cure.

ADVANTAGES OF SURGICAL TREATMENT

Some observers do not recommend hormonal therapy and even advise operation before the age of 1 year.(8) It is felt that therapy is of no value if it accomplishes only that which would occur spontaneously at puberty.



Opponents of hormonal therapy believe that migratory testes and other errors in diagnosis are responsible for the good results often reported from the use of medical treatment.

Some of the patients who supposedly show a good response to hormonal treatment will begin to regress within a few months after treatment is discontinued.

Since various writers have reported the co-existence of inguinal hernias in up to 85% of patients with undescended testes, it would appear that operation is almost inevitable even though a patient might be apparently cured of the latter condition.

The argument for early surgical treatment is supported to some extent by writers who feel that malignant tumors are more common in undescended testes. However, this view has been challenged by other competent observers.

It has been claimed that testes which do not descend until after puberty are often deficient in spermatogenesis. Again, this is a controversial point.

Advocates of surgical therapy fear that hormonal treatment may result in excessive genital growth, adverse effect on testicular function in later life, and premature closure of epiphyses.

Though not a scientific point, the economic consideration is important. Many patients are given hormonal therapy and then require surgery. If hormonal therapy fails, the expenditure for satisfactory treatment is considerably higher than if surgical correction had been performed initially. Too, some patients are protected by hospitalization insurance which will cover surgical treatment but not medical treatment.

SUMMARY

1. Entrance school examinations on 1301 Navajo Indian boys between the ages of 11 and 18 years showed 27 (2.08%) to have either unilateral or bilateral undescended testes.

2. Nine of these 27 boys (33.3%) responded favorably to six weeks treatment with chorionic gonadotropin.

3. The 18 patients not responding to gonadotropin were given testosterone for 4 weeks without benefit in any case.

4. Since results as a general rule were unsatisfactory, hormonal treatment is not recommended for the following patients having undescended testes:

- (a) Patients having hernias associated with undescended testes
- (b) Patients past puberty
- (c) Patients having intra-abdominal testes

If these patients are excluded, at least half of the remaining patients should respond to hormonal therapy and not require surgery.

REFERENCES

1. Wilkins, L.: *Endocrine Disorders in Childhood and Adolescence*. 1st ed. Springfield, Thomas, p. 150, 1950.
2. Rubin, M. J.: *Undescended Testes (Cryptorchidism)*; in *Mitchell-Nelson Textbook of Pediatrics*, Waldo E. Nelson, Editor. 5th ed. Philadelphia, Saunders, p. 1243, 1950.
3. McKirdie, M.: *Surgical Problems in Pediatrics*. West. J. Surg., 56: 622, 1948.
4. Longino, L. A.: *Optimum Age and Procedure of Choice for Elective Surgery in Infancy and Childhood*. J. Arkansas M. Soc., 48: 113, 1951.
5. Farrell, J. L.: *Anomalies of the Testicle*, in *The Child in Health and Disease*, Clifford G. Grulee and R. Cannon Eley, Editors, 2nd. ed. Baltimore, Williams and Wilkins, p. 778, 1952, p. 778.
6. From product description given by Sharp and Dohme, Philadelphia.
7. Thompson, W. O.; and Heckel, N. J.: *Endocrine Treatment of Cryptorchidism*. J.A.M.A., 117: 1953, 1941.
8. Koop, C. E.: *Undescended Testicle. Differential Diagnosis and Management*. Med. Clin. North America, 36: 1779, 1952.



THROUGH A SMALL SANATORIUM LOOKING-GLASS*

By W. H. Oatway Jr., M.D.
Altadena, California

Introduction

THE problem which faces a physician in a small, non-research tuberculosis sanatorium is how to pile up sufficient information on a subject to make it of value for a medical report. I have seized on the device of combining information on a number of subjects into one paper.

The title might be, as a result, like that of an Italian drama of 1935, "Ten Topics in Search of an Author". It should show how tuberculosis looks, in the mirror of a small Southern California Tuberculosis hospital.

The sanatorium is located near Pasadena and is a non-profit institution licensed for 52 beds, and with an average census of 51.7 patients throughout the past two years. The only restrictions on admission are that the patients preferably come from the Los Angeles area; that they be cooperative; that they have treatable disease; and that they be able to pay the charge which is set for them. Age is not especially a bar; race is no bar; and the presence of other diseases is not an obstacle, since we always have several diabetics and several patients with some circulatory difficulty. The patients pay about 70% of the cost of care, and endowments and gifts pay the other 30%. Our patients are recommended from all sources, and we have an open surgical staff.

The treatment program is an active one. Briefly, it consists of modified bedrest; high protein and vitamin diet; regulation of exercise; a generalized chemotherapy program; pneumotherapy as adjunct treatment when indicated; surgery, with collapse and resection therapy as indicated; partial rehabilitation before discharge; and a tendency for the patients to leave slightly sooner than the optimal therapy period.

This small and miscellaneous report may be of some value in contrast to reports from other larger institutions, in other areas of the country. If usage of a method is a measure of its success, then our few figures may reflect recent and current progress. From here on the report will consist of the reasons for saying "we find" and "we believe".

No. 1 — Use of Chemotherapy

Use of specific anti-tuberculosis drugs is intensive and almost routine. It is based on the premise that if the patient has active tuberculosis and is infectious he should be treated with the best possible combination of drugs for as long as currently seems necessary, in conjunction with whatever other methods seem necessary, until he is non-infectious and his lesions are as nearly healed as possible . . . In 1950 and '51 streptomycin and PAS were given to 82% of the patients, and in 1952-53 to 98%.

The three drugs which are used at the present time are streptomycin, some form of PAS, and isoniazid. Two or three of the 'mycin' drugs and two or three of the chemicals are held in reserve for occasional use in certain cases.

We feel at the present time that the safest way to give streptomycin is in combination with equal parts of dihydrostreptomycin. This usage is mostly based on theory, but it should be sound. The combination drug is given at the rate of 1 gm. twice a week, though we occasionally use 1 gm. or ½ gm. per day during the acute phase which follows discovery of a case.

A para-amino-salicylate is used at the rate of 1 teaspoonful three times a day for a total dose of 12 to 15 gms. per day. We usually use the inexpensive sodium PAS powder. If it is not tolerated we use a coated granule called Pasna, and occasionally a calcium PAS called Pasara. Almost all patients can tolerate one of these three. The only advantages of calcium PAS are its lack of sodium content and the absence of a taste.

Isoniazid is used at the rate of 50 mg. three times a day daily. We have discontinued the use of iproniazid since August, 1952.

The duration of chemotherapy here reflects the modern feeling that prolonged use is best. A course of therapy now averages a year or so. If surgery is used, most cases receive 4 to 6 months of pre-op. drugs, and 6 to 8 afterward (depending on the case, of course). This falls short of certain research regimens, but is a sharp increase from the duration 1 and 4 years ago . . . The increased duration often

* Paper for Medical Session at the Western Tuberculosis Conference, Salt Lake City, 4:15 P.M., September 18, 1953.

necessitates therapy up to the day of discharge, or even beyond. It means that gastric cultures are taken during brief gaps in therapy, and have less significance than they should. It is a compromise which we are forced to make.

For the past 10 months we have used streptomycin, PAS and INH together in almost every case. This is done because of a feeling that all three should result in the best clinical effect and the least hazard of resistance when combined. This is partly based on theory (and can be figured out mathematically according to the relative resistance to each drug) and is partly based on practical results from a few series. We see no reason for withholding isoniazid since the additive effect may be considerable, and when withheld, the later duration of usage might be too short to be of value. We have been assured by the Research Director of a noted drug house that this is a wise usage and is increasing. The Veterans' Administration has no protocol for three drugs at present, though several California V. A. hospitals are using three drugs on cases not included in protocol.

The only exception to the use of all three drugs is during an allergy to one of them (which will be discussed), and a resistance to one of them.

The total experience which we have had with chemotherapy in the past 5 years includes 400 cases. Two hundred sixty of these have been in the past 3½ years. I will mention briefly the major aspects of the use of these 3 drugs in the past 3½ years, using the headings of Tolerance and Toxicity, Allergy, and Resistance.

(a) The tolerance and toxicity for streptomycin has been excellent. The only symptoms have been an occasional headache and tension feeling, and occasional numbness or paraesthesias around the mouth in the few hours after injection. We have had no 8th nerve involvement, either auditory or vestibular, during the 3½ years . . . There has been only one case of allergy to streptomycin (¼ of 1% of all cases) and this happened to occur in a case also allergic to PAS . . . Resistance to streptomycin has been very rare; this may be partly due to the method of giving drugs, but may also be due to the fact that most of the patients have negative bacterial findings before reaching the total dosage which would be hazardous. A recent problem has been the admission of pa-

tients who have been treated at home with peculiar and unsatisfactory regimens, though we have not yet reached the sad status of some Veterans Hospitals where 50% of the admissions are already resistant to streptomycin.

Sensitivity tests to streptomycin have been made on every positive sputum or gastric after 6 months of combined therapy, or on admission if there has been previous therapy. Two cases had resistant strains on admission; one had SM therapy without PAS before and during his early sanatorium care and was resistant after 3 years; and two developed SM resistance during our therapy after 18 months duration, or about 1.5% of those treated.

(b) The tolerance and toxicity to PAS drugs has been mentioned. It consists of gastrointestinal disturbances and occasional headache in about 20% of the patients. A shift of preparations allows all but 1 or 2% to continue . . . We have had a total of 10 cases in which there has been transient vertigo which has apparently been partly due to the use of PAS. It usually disappears immediately on discontinuance of the drug and very often does not recur. It still produces a fear that the cause might be streptomycin, but it usually occurs early in the course of treatment . . . Allergy to PAS is of more importance. A mention of it was made, with Dr. Reding of Barlow, in the report of the Barlow-La Vina series in 1952; a further summary was made and published in June, 1952, in "Arizona Medicine", and 12 cases were then described, the largest series which had been reported. Eight of the nine attempted were successfully desensitized. Four more of the next 170 patients have been allergic, with a constant percentage of 2.4% in each series. All are being desensitized. An odd angle is that 15 of the 16 cases were women, while the san. pop. ratio is 20 women to 16 men . . . The resistance to PAS compounds is of less importance than resistance to the other two drugs, and it is not certain how the laboratory resistance correlates with clinical effectiveness. Bacilli may become resistant to PAS to some degree between 5 and 18 months. . . There is apparently a protective effect by streptomycin, just as the reverse is true. We have also reported that resistance to PAS is not constant, and later cultures may show less or no resistance.

(c) Tolerance to isoniazid and toxicity from it

are relatively pleasant subjects. The drug very rarely produces any intolerance. Its effect on the various parts of the nervous system is negligible in most patients who receive only 150 mgms. per day (which seems just as effective clinically as larger doses). The first 10 cases given isoniazid and the first 10 given iproniazid were checked very intensively in the spring and summer of 1952. Isoniazid produced some stimulation of the vegetative and central nervous system but this was rarely important; it became even less important when we stopped studying the cases carefully and asking the patients twice a week for the symptoms (we eliminated the so-called iatrogenic, or suggestive effect) . . . Iproniazid was definitely toxic and our small series helped discourage the drug manufacturer from continuing its use, since the report coincided with others. We actually had a case develop a toxic psychosis of a paranoid type and, fortunately, it was about 2 weeks after the first report on the subject in the literature. Both drugs should be watched carefully when given to patients whose kidney function is considerably reduced. Blood levels may then cause symptoms because of obstruction and elevation . . . We have not noted allergy to isoniazid, but others have thought that with extreme rarity such a condition might exist, just as depressions of the bone marrow, etc., are said to occur.

Resistance to isoniazid was studied carefully in the 20 early cases in our hands. All had positive sputums to start with. At the end of 8 to 11 weeks of therapy, twelve remained positive and one of them was resistant to 10 mcg. After 15 to 17 weeks only seven cases were positive, and all were sensitive including the previous resistant strain. One year later 13 of the 20 are still negative, 3 are dead, 3 had hopeless disease, and 1 can be called a partial clinical failure (a positive GA culture when off drugs) . . . The sputum and gastric cultures which have been examined since the first series of 20 cases have shown only rare resistance to INH, partly due to the high percentage of cases converted to negative by chemotherapy and surgery, but probably in part due to the combination of the drugs. Sixty-two patients, or 71% of the population, were given INH or IPNH during the first six months, 134 by August 1953, and the usage has now reached 100%. Three patients developed resistance

to INH after many months of use; one other developed it and reverted to sensitive; and two were admitted moderately resistant.

The results of our particular type of chemotherapy program have seemed to confirm two earlier warnings and suggestions concerning the use of streptomycin. I was disturbed enough to write a letter to the J.A.M.A. in 1947, warning against the indiscriminate use of streptomycin. Two of the reasons were the resistance which could be produced, and the hazard which a resistant case could be in infecting other individuals with a resistant strain. Later on, with Dr. Bogen in 1950, a broader but controlled use of the combination of streptomycin and PAS was suggested . . . Perhaps the usage is now too broad, but only hopeless, custodial, and aged cases would have seemed to escape the need for the drugs. Minimal disease, pregnancy, and several other conditions are added indications for chemotherapy.

No. 2 Use of Pneumotherapy

Pneumotherapy, in its medical sense, includes the use of intrapleural pneumothorax and pneumoperitoneum.

You all know the tremendous use of pneumothorax therapy in days gone by, when other operations and treatments were not available, and the decline of its usage so that it is anathema in certain clinics and even certain areas of the country. It still has its indications, though they are few. Fortunately for some of the former complications, chemotherapy is effective against effusions, empyema, etc. I have made a summary of the relative usage at our Sanatorium each July for the past 4 years. There has been only one patient on the list each July, never more than 2 at any time, and a total of only 6. Two were admitted with the collapse and 2 were abandoned as failures.

Pneumoperitoneum has had a vogue in most sections of the country, though it is still regarded with coolness in some areas. The greatest vogue has been in California, especially in the northern portion. It is an operation which can easily be started, easily administered, but unfortunately it is very difficult to stop it. The patient and the physician, for various reasons, often cling to it. It may be difficult to shift to a more definitive and localized operation because of its presence. We have used it fairly often because many of our patients have bilateral disease and many need the help of such a pro-

cedure until they are ready for resection or collapse treatment. I have also made a summary for the past 4 Julys which shows the relative usage. In July 1950 there were 22 cases on the list (44% of census); in 1951 there were 16 (or 32%); in 1952 ten (or 20%); and this July there were nine (18%) . . . The decline is apparent, but we may have reached a plateau of sound usage. About $\frac{1}{3}$ are abandoned upon use of surgery, or due to intolerance, failure, or (rarely) complications.

It is quite possible that many of our patients could have received the same effect from bed-rest and chemotherapy, but one hesitates not to use PNP, though we now wait longer before starting it and then add it on as an adjunct method, usually temporary. The relaxation of the diaphragm must be definite or refills are discontinued. We have found that emphysema is the chief obstacle of pneumoperitoneum, but as one scans through the years it is evident that emphysema also blocks the best effects of thoracoplasty and extrapleural pneumonolysis.

No. 3, Use of Surgical Therapy

Phrenic nerve interruptions are only occasionally done, are never of the permanent type, and are almost entirely used as a temporary procedure at the time of resection. As resection usage has increased at La Vina, the use of phrenic crushes has also increased . . . One primary phrenic crush, for therapy, has been done each year. Two secondary crushes were done in 1951, one in 1952, and seven have been done so far in 1953 — a significant increase.

Extrapleural pneumonolysis has always been a good operation in theory. It leaves the chest wall intact, produces a localized collapse of considerable extent, and by actual measurements of respiratory function causes a very small loss in reserve or utility. I had good experience with the procedure at the Wisconsin General Hospital about 1940, when it was often used for collapse of a lesion contralateral to another collapse measure, often in patients who could stand no loss of lung function. We almost invariably proceeded to fill the space with mineral oil, using it as a simple blockade to prevent expansion . . . We have used extrapleurals for the past 4 years, but perforce in a small series. We have routinely filled the spaces with oil, and check and warn the ex-patients each year concerning the presence of oil and the need for special observation. There is no doubt, as reported by Cutler in Philadelphia, that chemo-

therapy has made this procedure much more safe because of the lack of fluid and empyema formation. Our series shows the decline in the number of procedures in the past year or so, because of the replacement of the operation by a resection. It is not that we "think the less of it, but that we love the other more" . . . Eleven extrapleurals were done in 1950; 4 in 1951, with 2 others tried; 6 in 1952, and one more attempted; and only one tried and none completed in 1953. Four of the lyses done between 1950 and '52 were after lobectomy. One of the 21 spaces was filled with wax and two were filled with oil at operation, and the remainder were converted to oleothorax from 6 to 10 weeks after surgery. 16% were technical failures; 84% were early therapeutic successes; and 70% are listed as late successes. Emphysema caused most of the late failures. There were no empyemas.

Thoracoplasty has decreased in usage almost everywhere, and I hope it continues to do so. I dislike and resent the deformity of the chest and spine which occurs, the post-op. care which is required, and often not successful, the loss of functioning lung (and lung function), etc. Some surgeons still prefer it as a time-tried and tested operation which is predictable. I do not think that this is sufficient reason in most cases for its use. The application of primary thoracoplasty to patients here in the past 4 years has been as follows — 3 first and 3 second stages in 1950; 3 first, one second, and one third stage in 1951; 2 first and 4 second stages in 1952; and 2 first and 1 second stage in 1953.

Thoracoplasty has been used as a secondary procedure to fill the space after resections of lobes, in which the lung will not fill the space satisfactorily and without stretching. I believe that such usage will also be more often avoided in the next few years by the use of prostheses which will allow the chest wall to remain intact. The list of 'secondary' thoracoplasties is as follows—there were 2 first stages in 1950; 5 in 1951; 7 first and one second in 1952; and only 2 first stages and 1 second in 1953 . . . Various modifications of the simple thoracoplasty have not caught on. The complete Semb apicolyses were abandoned a dozen years ago. The constoverision operation with struts, etc., has not been taken up widely since Overholt described it. A group in New Orleans has tried a Mexican operation in which the lung

is tied down beneath the thoracoplasty. This procedure was suggested as far back as 1938, (and possibly before) but was not continued.

Resection is the fair-haired boy of surgery at the present time. It is the most logical operation, in that removal of tuberculous lung tissue is the best disposal of such tissue if it can be done with relative safety. We have used it increasingly as a primary, and occasionally as a secondary, procedure and consider it the best operation. Our surgeons do wedge resections occasionally, segmentals with moderate frequency, lobectomies about as often, and even the drastic pneumonectomies. Some clinics, notably that of Dr. Gale and Curreri in Madison, Wisconsin, have done more than 900 resections of various sorts. Their indications are very broad and some of their cases are salvage. Their mortality is only a few percent, even including patients who die incidentally in the first 6 months. Their conversion and rehabilitation figures are above 80% . . . Our series for the past 4 years has shown the change in frequency of usage. Segmental resections were not done until 1952; there were 8 done then and 8 so far in 1953. Pneumonectomy figures are few and irregular; 2 were done in 1950; none in '51; 3 in 1952; and 1 this year. Lobectomy has been done more often, in spite of the increase in segmentals; there were 7 in 1950; 12 in 1951; 14 in 1952; and eleven so far this year (for a total of 44) . . . In 1950 and '51, resections were done slightly more often than primary thoracoplasty; in 1952-53 the ratio is 4 to 6 times as often.

We also occasionally do **peculiar operations**. By 'peculiar' I mean an operation which is unusual, or seems so because of its newness. A sub-costal lucite plombage operation has been done on an older man, in which case there was contralateral disease, an impossible situation for resection, and a failure to do extra-pleural pneumonolysis. The ribs and spheres were taken out about 10 weeks after the operation, but if we had it to do again we would not subject him to the second operation, since Wilson and others in Boston suggest that the spheres may remain in such a location without hardship and that if the periosteum is left on the outside of the rib, the rib does not atrophy (this posulate is not accepted by Los Angeles surgeons) . . . Dr. Cotton of Los Angeles has done an "odd" operation: he removes an upper

lobe, then produces an extrapleural space. The condition is continued as a pneumothorax and eventually converted to an oleothorax. He also inserted a plastic sponge, and hollow and solid lucite spheres under the same circumstances. His series of more than 120 cases of extrapleural pneumonolysis after lobectomy is a respectable one . . . Drs. John Jones, Robinson and Meyer do an operation after resection of tissue in the upper lobe, where a filling of the space is necessary from the parietes. The procedure consists of the removal of about 2 cm. of the 2nd, 3rd, and 4th ribs next to the transverse processes posteriorly, and the same amount of resection anterolaterally. This produces a flattening of the chest in the upper third and is called a "waterfall" thoracoplasty.

We have used **fibrinolytic compounds** (SK-SD) to help clear clots after an extra pleural pneumonolysis, and have done it with safety and without too much inconvenience by keeping the air pressures low, observing the patient twice during the first day by fluoroscopy, and by having a needle ready to put in. This has not required the insertion of a tube in half a dozen cases.

No. 4 An Analysis of Morbidity and Mortality

The death rate in the Sanatorium has been low and irregular. It might be of some value to analyze the causes of death in the past four years. I will discuss it according to cause of death, the age of the patients, and the type of operation when surgery was involved. In 1950 one patient died, for a rate of 1.4%; in 1951 3 died, for a rate of 4.3%. Two of these were after surgery and both were lobectomies. In 1952 4 died, for a rate of 5.7%; three of them died from tuberculosis. In 1953 3 have died, for a rate of 4.3%. Two of these died from causes unrelated to TB or surgery. The average age of those who died of TB, was 52 years. The average age of those who died from surgery was 58 years. The average age of all patients has been 45 years.

No. 5 Prevention of Tuberculosis As It Involves the Sanatorium

Our sanatorium has taken an attitude concerning several aspects of prevention which seem to concern the sanatorium.

The laws of the state of California have made reporting of evidence of tuberculosis compulsory by physicians and sanatoria, and we approve of this. They also have included,

for about 6 years, the enforcement by counties of a quarantine for patients known to be tuberculous, with the amount of isolation to depend somewhat upon the condition of the patient. Actually, Los Angeles County has only attempted to enforce the law in the past year and a half, but is doing so quite vigorously and with a fair degree of diplomacy and success. We believe that this is necessary, and agree that if it protects contacts and forces patients to sanatoria, both the patients and the public will profit. (I have personally taken this attitude in the years when I was in private practice, on a university staff, and now as a sanatorium director, so it cannot be said to be prejudice of position).

The use of chemotherapy *at home* is subject to considerable abuse. I do not think that this can be changed more than a small amount. Abuses occur from overdoses and lack of control of the patient by general practitioners (who do not always understand the limitations on dosage and duration); by chest specialists who cannot always control their patients; and by health departments which give out-patient therapy (and which sometimes allow the patient to get lost or out of control) . . . Pre-sanatorium or pre-operative chemotherapy is legitimate provided it is under strict guidance according to modern means.

Mass x-ray examination of the chest can be an important method of prevention. It can recognize the infected and diseased patients, and thus allow treatment and protect contacts. It is certainly legitimate to use this method in schools of higher education and even high schools, though the yield of cases is relatively small, especially in certain areas of the U. S. It can be used with profit in businesses and industries, and even such cross-sections as unions . . . A more valuable approach in which the yield is often high is routine films of patients at the time of admission to general hospitals. If such a survey is organized thoroughly, and such methods as those used at the Los Angeles County Hospital for x-raying non-ambulatory patients are used, a high percentage of the admissions can be x-rayed . . . Communitywide surveys have a great advantage over no x-rays at all, but they have certain flaws which are beginning to appear. The cost is considerable; the organization and the community cooperation must be top-notch; and

the individuals in the community who do not volunteer for such examinations are usually the ones with the highest incidence of pulmonary disease. Furthermore, certain sections of the country have found that the yield is so small that other methods of approach might be better utilized (though this point is one open to settlement in the future) . . . The examinations of patients in mental hospitals and prisons, as well as the turnover in the county and city jails, is a highly profitable field. Control of these patients after the diagnosis is made is another difficult but exceedingly valuable portion of tuberculosis control. Dr. Zahn of Seattle has reported success in this latter situation.

Vaccination with BCG has a limited but very definite usefulness in prevention in a community. I have been involved in the problem since 1928 at Saranac Lake, from the bacterial standpoint; through the tests of its protective effect and safety with Dr. Rosenthal of Chicago; through the installation of its use in a university medical school and nurses training school (Wisconsin) where it has been used for 12 years since; up to recent months when the chief chore has been to help explain and repeatedly defend the procedure . . . The concern of a sanatorium with BCG can be three-fold, — It can be used to vaccinate nurses who are negative to tuberculin tests and who are out of contact with patients for a period of 4 to 6 weeks. Since all of the nurses at La Vina have had positive skin tests before starting work here, that usage has not been great, but it can be used in sanatoria where nurses' training programs are under way . . . The second use is to provide vaccination service for contacts and families of patients. If the sanatorium has a service which covers this situation, in an out-patient department, it can be of considerable value. From our experience, in a small sanatorium, we offer vaccination to relatives two or 3 times a year. Invariably we obtain the vaccine (from Chicago), have 15 or 20 volunteers, and end up with 0 to 3 vaccinations. A third sanatorium use of BCG is the help which a physician can provide to nursing groups, or medical schools, or laboratory technicians in the area . . . Private use of the vaccine in the Los Angeles area is almost non-existent and this is unfortunate. It is a procedure which can be used best by the health department; it requires the interest of

an enlightened and evangelistic teacher or medical director . . . Incidentally, BCG is now available for interstate shipment and in a long-lasting form from Dr. Rosenthal's 'Research Foundation' in Tice Laboratory at the University of Illinois. The material is lyophilized (freeze-dried) and is usable for several months. It can be shipped simply, without refrigeration, and 1 cc. (enough to vaccinate a dozen people) costs only about \$3.00.

No. 6 Changing Age of Admissions

During the past 3 years the average age of admissions each month has varied somewhat, but generally increased so that during two months last winter the average age of admission was 63 years. I have a graph which shows this change, and it is a dramatic one and significant from the standpoints of case-finding and therapy . . . The mortality rate for tuberculosis has been definitely lowering, as is well known. The morbidity rate, or case-report rate, has not kept pace, and in some areas is staying the same or increasing. This may be due to the methods of case-finding, and it is quite possible that by these methods older individuals are being examined for the first time in large numbers. From our experience it is not due to the fact that the older individuals have sufficient funds to go to a non-profit institution, and it is not entirely due to the efforts of the health departments to send older patients for sanatorium care . . . The age of a patient limits somewhat the therapy program; it is not possible to do pneumotherapy or collapse therapy to exactly the same extent or freedom as in younger age groups. We have given pneumotherapy, especially PNP, to patients between 50 and 60 years of age, and have noted no difference in tolerance or effects except for the possible slightly greater presence of emphysema in the older age group. Surgery has been reported in many institutions as possible in individuals between the ages of 60 and 70 . . . The cases, however, are definitely less eligible from the standpoint of the lesions usually found in an elderly person, and the response to surgery.

No. 7 Finances of a Small Sanatorium

Large gifts to the endowment are very rare in our recent experience. The solicitation of medium-size and even small gifts has become more difficult; it requires much greater effort to raise even a portion of the amount which 5

to 10 years ago was easily obtained. The tax set-up of individuals is obviously responsible, since generosity has not changed. The tax set-up of corporations is such that many of them could give 5% of their income at about 20c on the dollar if they cared to do so. This has not been widely publicized, and in our case has not been taken advantage of as it has in Chicago, where the non-profit institutions have been organized, and the corporations have also been organized for regularly increasing subscriptions which they hope will reach 1% . . . Income from patients has been variable, since following the year 1950 the Blue Cross and Blue Shield have progressively eliminated TB from coverage. Private insurance companies, unions, and state compensation have helped to fill this gap, but it will not be completely filled until catastrophic policies are the rule.

The cost of care has gradually risen, with wages, food, utilities, insurance, and supplies all contributing to the increase. Nevertheless, the cost of care per day per patient averages about \$8.50, which compares favorably with other tuberculosis institutions here and elsewhere.

No. 8 Education of the Patient and the Public Concerning TB

It seems to us that the public is only slightly more educated about tuberculosis, and the available places and methods of treatment, than it was 10 to 20 years ago. If one has a personal interest, or TB touches home, that person becomes interested and eligible for education. The best that can be done is to continue the publicity with the hopes of making the public slightly conscious of the general methods of care, sanatorium facilities, etc. It is legitimate to use everything from animal stories and unusual occurrences to beauty contests. . I have heard it said, however, that you can only shoot the medical director once for publicity purposes.

Education of the patients is an easier task, since they are in a position to be exposed to all sorts of notes, outlines, etc., from the front office. The theory of Trudeau Sanatorium, back in the teens and twenties, was that the patient had the disease and had to know about it. They once limited their admissions to people who could be educated, and usually had nurses and physicians and medical students as half of their patient population. At La Vina we use

a descriptive but simple outline for patients concerning infectious precautions, rest, exercise and rehabilitation, chemotherapy and collapse therapy, and urge the patients to read it repeatedly. We quiz them on it during rounds, and urge the patients to ask questions. We send out a note about once a month, with news items, comments on broken techniques, humorous items, etc., which sugar-coats the pill. Occasionally when breaches of technic are bad, as reported by the nurses or seen by the staff, patients are talked to directly or sent a note which they can re-read. Relatives are consulted concerning the patient's illness, and the patient and relatives are given a discharge lecture with a plan for the future as far ahead as one or two years under adequate medical care.

Nurses are given lectures, in a series of 4 or 5, once a year. There is a small library of books on nursing care, and the nurses are urged to read certain of these publications. They also read the patient's outline so they know what the patient is to do. We have in preparation a special outline for the nurses in this institution, composed from our own standpoint.

Our sanatorium is adding its small bit to the improved training of practical nurses. We take 3 vocationals ("Vokies") for 3 weeks per month. They have a classroom and an instructor provided by the Pasadena TB Ass'n. and they learn to care for, and to respect, but not fear the disease.

Our chief aim in education is to teach the fundamentals and essential details of infectious disease precautions to the nurses, other contact employees, the patients, their relatives, and anyone else who will listen. Isolation

technic' can be very simple and regular if used routinely . . . I will not bother to mention methods as they apply to patients, their environment, and their contacts, but there are a few items which bear mention, — An odorless detergent antiseptic, called 'Amphyl', is available for use on floors, flat surfaces, furniture, etc. Alcohol in a dispenser (or squirt bottle) is not only valuable for the hands but easy to use, and rubbing alcohol is as good as ethyl. Ultra-violet wall-lamps may add to the sanitation of a potentially contaminated room. There are other antiseptics coming up, I've heard.

No. 9 The Broad View

The data and ideas which are presented and discussed suggest quite a few conclusions, —

Diagnosis and therapy are not static. Better methods are becoming evident through the years, and even during months and weeks.

The reduced mortality rate for tuberculosis is hopeful, yet almost as many die of the disease as are reported to have polio.

The morbidity rate is still high, with huge numbers of unreported cases working out their fate (and that of their contacts) unrecognized. I'm sure that this rate will fall, but we must help knock it down in spite of the inertia which overconfidence can cause. Some sanatoria are failing, some are changing, but in many places there are not enough beds to care for the sick.

We're moving along, but I always keep in mind the warning of the late Dr. Fred Heise of Trudeau Sanatorium. He was never unusually optimistic, but he paradoxically warned the students away from his own specialty, since the disease "would wane in 10 years and be gone in 20." The year was 1928, and we still have work to do.



ACUTE PNEUMONITIS DUE TO ACCIDENTAL EXPOSURE TO MERCURY VAJOR

George W. King, M.D.

Tucson, Arizona

MEDICAL literature on mercury poisoning commonly refers to the acute or chronic effects of a mercury salt on the various tissues of the body, usually the kidney, or of the toxic and physiological effects of diuretic, antilutetic or other organic mercury containing compounds on the body. Acute and chronic poisoning from metallic mercury usually occurs in industry where it has been found among workers in quicksilver mines, in industries extracting other metals with the use of mercury, among makers of felt hats, mirrors, scientific instruments etc. The physical characteristics of metallic mercury make it especially dangerous in these industries, since it is slightly volatile at ordinary temperatures, and it boils at 356.99C. Due to volatility it is readily absorbed by inhalation of its fumes (von Ottingen), and these small particles of mercury are extremely powerful protoplasmic poisons. The following is a case of accidental exposure to mercury vapor in which the inhaled chemical set up an acute pneumonitis, and in which prompt vigorous treatment effected complete recovery.

Case Report: D. L., a 29 year old amateur prospector stated that on February 21, 1954 he mixed about one ounce of "gold sand" with about one teaspoonfull of metallic mercury and heated the resulting amalgam in a clay dish over the kitchen stove with the intension of evaporating the mercury and recovering the pure gold. The kitchen was described as measuring about 10 by 10 feet with ventilation provided by a partially open door leading to the outside. Both the patient and his wife were in the kitchen for most of the hour that it took to reduce the mercury amalgam to a small black residue, and they both noticed a metallic taste which they attributed to the burning paint on the clay dish. About one hour later the patient lit a cigarette, and was seized with a sudden fit of coughing that lasted for several hours, until a physician was summoned.

When first examined the patient was found to be acutely ill, vomiting, febrile, slightly cyanotic and very dyspneic. He was unable to take a deep breath due to a severe burning oppressive pain over the trachea and anterior

chest. A portable chest x-ray taken on admission to the hospital revealed, "Bilateral bronchopulmonary abnormality probably indicative of aspiration and exudative type bronchitis". A standard chest x-ray taken two days later showed, "Improvement is obvious, but active appearing infiltration due to the chemical pneumonitis is still present bilaterally." Other laboratory tests with the exception of a white blood count of 12,000 and a marked shift to the left were within normal limits. The urine at no time showed albumen, pus or blood, and one determination for heavy metal content was negative.

The patient was placed in an oxygen tent and started on dimercaprol (BAL) in peanut oil, 2 cc. every four hours for the first day, and then every eight hours for the second day. He was placed on penicillin and dihydrostreptomycin by injection, and then tetracycline 250 mgm. every six hours as soon as his vomiting stopped. Allevoire® was added to the oxygen inhalations, and positive pressure oxygen with the Bennett valve seemed to give him relief.

The patient became afebrile on the 4th hospital day, and was discharged on the 10th hospital day. He was re-hospitalized 5 days later with an acute coughing paroxysm that could not be controlled at home, but x-rays at that time showed complete clearing of the pneumonic process and he was discharged the next day. At the final examination the patient was found to be entirely well, with a vital capacity of 100%. Urine examination was entirely negative.

SUMMARY

An interesting case of acute pneumonitis apparently due to accidental exposure to mercury vapor in the home has been presented. The manner of treatment is described with the patient making a complete recovery. The warning implied by this case as to the improper handling of mercury seems clear.

From the Department of Medicine, Tucson Clinic, 110 S. Scott.

REFERENCES

- "Poisoning", W. F. von Ottingen, M.D., Ph.D. Paul B. Hoeber, Inc. p 385. 1952
- Tasker Howard, M.D. Practice of Medicine, TICE. Vol. VIII. P. 175, 1952.
- The Pharmacological Basis of Therapeutics, Goodman and Gilman. The Macmillan Co., P. 732, 1940.

PHOENIX *Clinical* CLUB

The Case History in this discussion is selected from the Case Records of the Massachusetts General Hospital, and reprinted from the New England Journal of Medicine. The discussant under Differential Diagnosis is a member of the staff of the Massachusetts General Hospital. The other discussants are members of the Phoenix Clinical Club.

MASSACHUSETTS GENERAL HOSPITAL

PRESENTATION OF CASE

FIRST ADMISSION. A fifty-three year-old man was admitted to the hospital because of shortness of breath.

Ten years prior to entry the patient had an episode of severe chest pain, for which he spent ten weeks in bed; he was told that he had a "coronary." After this he had occasional episodes of precordial pain and occasional cramps in the left leg, both of which followed exertion. Three years prior to admission he first noted exertional dyspnea. He was given aminophylline pills and later digitalis, with some improvement; the digitalis was stopped six months prior to entry. During the six months before admission he gradually lost energy and "drive," became moderately anorexic and complained of a growing epigastric pain. Three weeks before admission his dyspnea became more severe, and orthopnea, ankle edema and a depression in the urinary output were subsequently noted.

The patient had had a chronic nonproductive cough for many years. There had not been any nausea, vomiting, hemoptysis, change in bowel habits or urinary symptoms. There was no history of hypertension or rheumatic fever. His father had died of heart disease at the age of forty.

Physical examination revealed a chronically ill man with obvious respiratory distress. The neck veins were distended. Scattered rales were heard at the bases of the lungs posteriorly. The heart was enlarged, with the apical beat palpated 14 cm. from the midsternal line in the sixth intercostal space. There was a Grade II, blowing, apical, systolic murmur and a marked apical diastolic gallop; the aortic second sound was equal in intensity to the pulmonic. An enlarged, smooth liver was palpated, the edge

being 2 cm. below the costal margin. There was mild sacral and ankle edema.

The temperature was 98.6 F., the pulse 120, and the respirations 30. The blood pressure was 120 systolic, 95 diastolic.

The urine had a specific gravity of 1.024 and was normal. Examination of the blood revealed a hemoglobin of 13.4 gm. and a white-cell count of 10,700, with 36 per cent neutrophils. The sodium was 130 milliequiv., the chloride 95 milliequiv., the potassium 4.8 milliequiv., and the carbon dioxide 26.6 milliequiv. per liter; the nonprotein nitrogen was 30 mg., the total protein 5.72 gm., with a normal albumin-globulin ratio, the thymol turbidity 0.8 units, the alkaline phosphatase 4.2 units and the serum cholesterol 216 mg. per 100 cc. A blood Hinton test was negative. Roentgenograms of the chest demonstrated generalized cardiac enlargement involving both the right and left ventricles, a tortuous, somewhat sclerotic aorta and accentuation of the vascular markings in the lungs. An electrocardiogram showed a normal sinus rhythm at a rate of 100, a PR interval of 0.14 seconds, QRS interval of 0.17 second and left-bundle-branch block. The T waves were low and upright in Lead I and upright in Leads 2, 3 and AVF; the R waves were small in Leads V₁, V₂, V₃ and V₄ and broad and slurred in Lead V₆; the S waves were broad in Leads V₁, V₂, and V₃.

Treatment with digitoxin, mercurial diuretics, aminophylline, low-salt diet and ammonium chloride resulted in a diuresis and considerable improvement in the dyspnea. On the fourth day the patient felt a dull aching, nonpleuritic-type pain in the right upper anterior part of the chest, and coughed up dark-red blood. This was followed several hours later by a severe precordial pain, accentuated by respiration; a pleural friction rub was found 5 cm. below the left nipple. Roentgenograms of the chest and the electrocardiogram were unchanged. Dicumarol was added to the treatment. He recovered from the episode of pain quite rapidly. He continued, however, to have occasional episodes of pain in the precordium and anterior portion of the chest of brief duration, with radiation to the left shoulder, and occasional attacks of paroxysmal nocturnal dyspnea. He was discharged

after a month only slightly improved; he had been able to remain out of bed in a chair for only short intervals.

Final admission (two weeks later because of abdominal pain). In the interval the patient had done fairly well at home on a bed-to-chair regime; he had not had any respiratory difficulty or chest pain, although he had had to sleep at a 30° angle. Three days prior to entry pain and tenderness in the left lower quadrant of the abdomen suddenly developed. The pain persisted and on the following day involved the left flank and testicle. The pain gradually decreased in intensity, being almost completely absent on the morning of admission, when the left lower-quadrant pain returned and was associated particularly with changes in position. During this three-day period the dyspnea, paroxysmal nocturnal dyspnea and precordial distress returned. There had not been any vomiting, diarrhea or constipation. He had not had any urinary symptoms except for a decrease in urinary output during the three-day period; urinalysis had been negative until the day of admission, when it showed 15 to 20 red cells per high-power field in the sediment.

Physical examination revealed a pale man who was sweating slightly and who complained of pain in the lower abdomen when he moved. The neck veins were distended. The lungs were clear. Examination of the heart was unchanged from the previous admission. A nontender liver edge was palpated four fingerbreadths below the costal margin. There were no other palpable organs or masses in the abdomen and no areas of tenderness. There was no costovertebral-angle tenderness. The femoral, popliteal and posterior tibial arteries could not be felt on either side. The right leg appeared somewhat dusker than the left, but the temperature seemed to be the same in each.

The temperature was 100.6°F., the pulse 120, and the respirations 22. The blood pressure was 110 systolic, 100 diastolic.

The patient was apprehensive, lethargic and occasionally incoherent. He complained of pain on both sides of the lumbar spine. Ten hours after admission the skin showed mottled cyanosis from the waist down, and the legs were colder than the arms. He became unresponsive, and died fourteen hours after admission.

DR. LOUIS G. JEKEL:

Our patient, a 53 year old man, suffered

from chronic heart failure, and died having heart failure associated with a vascular occlusion in the lower abdomen, pelvis, and lower extremities. It seems we must decide, first, what kind of heart disease the patient had, and second, whether the vascular occlusion was arterial or venous.

There is, in this case, a rather definite history of coronary occlusion ten years previously. Furthermore there is a history of occasional anginal pain and intermittent claudication. From this we may deduce the presence of atherosclerosis of some degree. Certainly, coronary sclerosis would be part of the process, and the heart failure was, at least in part, due to this factor. The left bundle-branch block fits in with this picture also. The systolic blood-pressure is not elevated, although the diastolic is at least at the upper limits of normal. So we have, then, a picture of arterio-sclerotic heart disease without marked hypertension, and without kidney involvement.

Although this patient gave no history of rheumatic fever, I believe rheumatic heart disease must be considered in the diagnosis. I say this especially because of the murmurs present. First, there is systolic murmur at the apex. Now, an apical systolic murmur may be due to mitral valve deformity. In such a case the murmur usually will be transmitted laterally, even around to the back of the angle of the scapula. In our case no mention is made of a transmitted murmur. The apical systolic murmur may also be present in the absence of mitral disease. In such a case the murmur is not transmitted laterally, and is due to an enlargement of the mitral ring secondary to dilatation of the chambers of the heart. In our patient the heart was greatly enlarged, due in part to dilatation, no doubt, and in part to hypertrophy.

Our patient also exhibited a diastolic murmur, at the apex, described as a "marked apical diastolic gallop." This sounds more like a rheumatic heart. Yet, the description of a "gallop", which is really a third sound, is not proof that we are here dealing with a murmur. Had a diastolic thrill been described the evidence would be more convincing.

The confusion in this case thus arises mainly from the presence of findings which may or may not be due to rheumatic heart disease: heart murmurs; and the presence of findings which may be due to rheumatic heart disease or ar-

teriosclerotic heart disease; heart failure and left bundle-branch block.

Two pieces of evidence against rheumatic heart disease are: (1) the lack of a "mitral configuration" on the roentgenogram, and (2) the equal intensities of the second sounds at the aortic and pulmonic areas.

Now, what about the vascular accident that finally killed this man? Was it an aneurysm of the aorta or of the iliac artery? I do not think so, for the pain did not seem to be severe enough, or the shock to the patient intense enough. He seemed to weather the attack too well for several days. Also, the blood pressure was too low for a ruptured aneurysm.

The diagnosis of phlebothrombosis is very attractive to me. The patient had been bedfast; his circulation was slow (B.P. 110/100 — Pulse Pressure, 10), and he was a good candidate for thrombosis. Furthermore he had only a month before lived through an episode of what apparently was a pulmonary infarction, indicating a loosened thrombus from somewhere. However, the patient, in the end, did not die of a pulmonary infarction, and the vascular occlusion in the pelvis took on less of the picture of thrombosis and more of that of an embolus.

So, with some trepidation I accept the diagnosis of arterial embolism. Our patient, again, made a good candidate, for his chronic heart disease established a rich soil for the production of a valvular or mural thrombus. Since there is little evidence of bacterial endocarditis or valvulitis, the mural thrombus would seem to be more likely. Probably a moderate sized mass occluded the left iliac artery only partially at first, for the symptoms were not severe enough for complete or massive occlusion. Then, the patient fared rather well for several days, apparently getting some blood through to the left lower extremity. But in the meantime, it is to be supposed, the embolus had produced some thrombosis. The thrombus propagated, spreading across the bifurcation of the aorta to involve the right iliac artery, producing a "saddle" distribution of the occlusion, with the resulting complete closing off of the blood supply to both lower extremities.

DIAGNOSIS: Arteriosclerotic heart disease with coronary insufficiency and heart failure.

Iliac artery and aortic embolic and thrombotic occlusion.

DIFFERENTIAL DIAGNOSIS:

Dr. Francis G. Barnum, Jr., (Assistant in medicine, Massachusetts General Hospital.) This is the case of a fifty-three-year-old man who had heart disease and developed congestive failure; then a complication ensued that probably caused his death. There are two fundamental questions to be answered: What type of heart disease did he have, and what was the nature of the final episode?

Atherosclerosis of the coronary vessels is the most probable cause of this patient's heart disease for a number of reasons. In the first place, he had an episode of severe chest pain ten years before admission, which kept him in bed for ten weeks and which was called a "coronary"; presumably, this was a myocardial infarction. Secondly, he subsequently had occasional episodes of precordial pain related to exertion; angina often makes its first appearance after myocardial infarction. Thirdly, he had occasional cramps in the left leg after exertion, suggesting that the atherosclerosis was not limited to the coronary vessels. Fourthly, his father had died of heart disease at the age of forty; this is not conclusive, of course, but in patients with angina pectoris one often uses as a prognostic yardstick the age of death of the parents, if they had coronary-artery disease. Fifthly, the only murmur heard on examination was an apical systolic murmur; this, as the only murmur in the presence of a heart as large as this, was undoubtedly due to cardiac dilatation with relative mitral insufficiency. It is logical that this dilatation was due to weakening of the myocardium from coronary atherosclerosis and the previous myocardial infarction. Sixthly, an electrocardiogram showed left-bundle-branch block, which is most often due to coronary artery disease. Finally, an apical diastolic gallop is common in dilatation of the left ventricle as well as in left-bundle-branch block.

Other causes of heart disease can be fairly readily excluded. Rheumatic heart disease with mitral insufficiency alone can be excluded on the basis of the absence of history of rheumatic fever and the fact that mitral insufficiency alone would not have produced this degree of cardiac enlargement. Syphilitic heart disease can be excluded by the negative Hinton test and the absence of an aortic murmur. There was nothing to support the diagnosis of myxedema or of beriberi heart disease. Congenital heart

Dramamine's* Effect in Vertigo

Dramamine has become accepted in the control of a variety of clinical conditions characterized by vertigo and is recognized as a standard for the management of motion sickness.

Vertigo, according to Swartout, is primarily due* to a disturbance of those organs of the body that are responsible for body balance. When the posture of the head is changed, the gelatinous substance in the semi-circular canals begins to flow. This flow initiates neural impulses which are transmitted to the vestibular nuclei. From this point impulses are sent to different parts of the body to cause the symptom complex of vertigo.

Some impulses reach the eye muscles and cause nystagmus; some reach the cerebellum and skeletal muscles and righting of the head results; others activate the emetic center to result in nausea, while still others reach the cerebrum making the person aware of his disturbed equilibrium. *Vertigo may be caused by a disease or abnormal stimuli of any of these tissues involved in the transmission of the vertigo impulse, including the cerebellum and the end organs.*

A possible explanation of Dramamine's action is that it depresses the overstimulated labyrinthine structure of the inner ear. Depression, therefore, takes place at the point at which these impulses, causing vertigo, nausea and similar disturbances, originate. Some investigators have suggested that Dramamine may have an additional sedative effect on the central nervous system.

Repeated clinical studies have established Dramamine as valuable in the control of the symptoms of Ménière's syndrome, the nausea and vomiting of pregnancy, radiation sickness, hypertension vertigo, the vertigo of fenestration procedures, labyrinthitis and vestibular dysfunction associated with antibiotic therapy, as well as in motion sickness.

Any of these conditions in which Dramamine is effective may be classed as "disease or abnormal stimuli"* of the tissues including the end organs (gastrointestinal tract, eyes) and their nerve pathways to the labyrinth.

Dramamine (brand of dimenhydrinate) is supplied in tablets of 50 mg. and liquid (12.5 mg. in each 4 cc.). It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. G. D. Searle & Co., Research in the Service of Medicine.



The site of Dramamine's action is probably in the labyrinthine structure.

*Swartout, R., III, and Gunther, K.: "Dizziness:" Vertigo and Syncope, GP 8:35 (Nov.) 1953.

disease can be excluded by the location and intensity of the murmur, for the only form of congenital heart disease that produces an apical systolic murmur near the apex — namely, ventricular septal defect — would produce a loud murmur and thrill; also the murmur in this condition is usually maximal at the fourth left inter-space next to the sternum, not at the apex.

Among the rarer causes of heart disease one might consider cardiac amyloidosis; however, there was nothing in the history or physical examination to suggest this diagnosis. The same statement can be made of the collagen diseases. Myocardial sarcoidosis is another possibility, but there were no cutaneous lesions or lymphadenopathy and the globulin was normal.

We have, then, this man with arteriosclerotic heart disease who probably had a myocardial infarction at the age of forty-three and who began to have exertional dyspnea three years before his first admission. Digitalis was given, with some improvement, as might have been expected. The fact that it was stopped and he grew worse confirms the impression that his heart was failing. The anorexia and loss of energy are consistent with beginning congestive heart failure. Nothing is said about the character of the epigastric pain so I must assume that it was due to poor functioning of the gastrointestinal tract caused by edema.

Three weeks before admission the gradual myocardial failure became more acute, with orthopnea, ankle edema and a depression in the urinary output; the last was probably due to the accumulation of edema fluid in the tissues that would normally be excreted in the urine. An outside possibility that the gnawing epigastric pain had been treated with Banthine and that this had caused a depression in the urinary output is unlikely since he had no true urinary symptoms — that is, no true retention.

On examination, the distention of the neck veins, the enlarged liver and the sacral and ankle edema show that the right side of the heart was failing, and the dyspnea and basal rales along with the accentuation of the vascular markings in the lungs show that the left ventricle was also failing. The chemical studies were consistent with congestive heart failure, all values being normal except for a low sodium and chloride. The moderate elevation of the white-cell count is also consistent, but I cannot explain the low percentage of neutrophils. The

electrocardiogram showed left-bundle-branch block; the upright T waves in Lead I are unusual in left-bundle-branch block and suggest the possibility of a previous myocardial infarction.

On the fourth hospital day the patient felt a dull aching pain in the right upper anterior part of the chest and coughed up dark-red blood. This is perfectly typical of one of the common complications of heart failure—namely, pulmonary embolism. Several hours later a severe precordial pain, with a pleural friction rub 5 cm. below the left nipple, developed. This may have been due to another pulmonary embolus, through it is most unusual for a friction rub to develop so rapidly. The fact that the pain was accentuated by respiration, however, is in favor of a pulmonary embolus.

May I see the x-ray films?

Dr. Stanley M. Wyman: These two sets of films of the chest, taken three days apart, both show considerable cardiac enlargement, which probably involves both left and right ventricles primarily. The aorta is calcified and somewhat tortuous. The enlargement of the hilar and pulmonary vascular shadows is fairly marked and is seen on both examinations. In addition, on the second examination, there is a hazy density in the left-lung field overlying the heart border.

Dr. Barnum: Is there any evidence of beginning dissection of the aorta, such as a wide supracardiac shadow?

Dr. Wyman: No. The aorta is well seen through the heart on both posteroanterior films and is fairly well seen in its upper portion on the lateral films.

Dr. Barnum: I, thus, have confirmation of the embolus to the left-lung field. The most likely source for this embolus is the leg veins. A cardiac source is probably excluded by the absence of auricular fibrillation and of bacterial endocarditis (since rheumatic heart disease and congenital heart disease have been ruled out). Embolus from a mural thrombus in the right ventricle is an outside possibility.

The patient entered the hospital for a second time because of a three day history of pain and tenderness in the left lower quadrant of the abdomen. That this pain was due to involvement of the kidney is strongly suggested by the radiation to the left flank and testicle and by the fact that urinalysis showed 15 to 20 red



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cells per highpower field in the sediment. The absence of costovertebral-angle tenderness does not exclude renal involvement.

Could this have been intraperitoneal disease involving the kidney? Pain in the abdomen on motion and with change in position suggests irritation of the parietal peritoneum; however, the fact that the abdomen was not tender makes this unlikely. It is possible that this path was partly due to occlusion of the superior mesenteric vessels. With the findings given, however, there is not sufficient evidence to make this diagnosis.

The decrease in urinary output was probably caused by a further accumulation of edema. The combination of clear lungs and distended neck veins may have been due to a large component of right-sided heart failure; it may be that the patient was in severe pain and held himself rigidly, thus increasing his intrathoracic pressure and causing distended neck veins; or, finally, pulmonary edema may have been present without audible rales. The blood pressure showed a narrow pulse pressure with a high diastolic pressure, the latter probably due to the excitement and pain of his illness. Dr. Fennell has been kind enough to give me all the blood-pressure values in the two admissions; these were uniformly in the normal range.

The final accident was characterized by lethargy, pain on both sides of the lumbar spine, cyanosis from the waist down and decreased temperature of the legs. This must have been due to a vascular accident involving the lower limbs. The suddenness of onset, with absent pulsations in the leg arteries, is strongly suggestive of an arterial occlusion. Localized thrombosis does not fit the clinical picture, and there is nothing to suggest it; I am therefore left with the possibility of dissecting aneurysm or of multiple emboli.

This patient's pain was consistent with dissecting aneurysm since it waxed and waned and was extremely severe when it was present. The episodes of precordial pain with radiation to the left shoulder may have represented further dissection. The lethargy and incoherence are mental symptoms that can be associated with dissecting aneurysm, presumably because of partial obstruction of the carotid arteries. Pain on both sides of the lumbar spine may have been due to dissection near the aortic bifurcation.

The main argument against dissecting aneurysm is the absence of hypertension both by

history and on examination. Additional points against the diagnosis are absence of sudden pain in the chest and back, absence of a basal diastolic murmur and of a characteristic x-ray picture. In the series of cases of dissecting aneurysm of the aorta reported from the Massachusetts General Hospital evidence of hypertension was found in all. In addition, a typical history with a basal diastolic murmur was found in a significant percentage.

In favor of embolism is the fact that the patient had coronary-artery disease with a probable myocardial infarction ten years before his first admission. It is possible that he had a mural thrombus at that time and that, when congestive failure occurred, more thrombus developed and became a source for emboli. On the other hand he may have had a silent myocardial infarction sometime after the first admission. It is also possible that any one of the attacks of pain in the chest after discharge represented a myocardial infarct. Electrocardiographic proof of these could not be obtained in the presence of left-bundle-branch block.

The symptoms during the final admission could have been due to embolus to the left renal artery arising in a mural thrombus in the left ventricle, followed by a large saddle embolus or two smaller emboli occluding the iliac arteries. Other possible sources for emboli are a fibrillating auricle and bacterial growths superimposed on a defect of the ventricular septum or rheumatic heart disease. These have already been excluded. Paradoxical embolization via an unsuspected defect of the auricular septum seems far-fetched, as does a source in one of the pulmonary infarcts.

My diagnosis, therefore, is arteriosclerotic heart disease with myocardial infarction, old, and probably recent, with a mural thrombus and emboli to the left renal and to both iliac arteries; the last may have been a saddle embolus. There is a possibility of embolization to the superior mesenteric artery. There were also at least two pulmonary emboli.

CLINICAL DIAGNOSIS

Coronary-artery disease.

Saddle embolus of aorta, with thrombosis of renal arteries.

Dr. Barnum's Diagnoses

Arteriosclerotic heart disease.

Myocardial infarction, old and recent with mural thrombi.

Emboli to renal and both iliac arteries.
Pulmonary emboli.

Anatomical Diagnoses

Thrombosis of abdominal aorta, with occlusion of renal and iliac arteries.

Renal infarction, left.

Coronary-artery and probably hypertensive heart disease.

Myocardial fibrosis and old infarction.

PATHOLOGICAL DISCUSSION

Dr. Robert H. Fennel, Jr.: The aorta was occluded by a thrombus from the bifurcation to just above the level of the renal arteries. The aorta was dilated above the bifurcation, and in that region the thrombus was yellow and firmly adherent, and appeared older than the thrombus that extended to occlude the renal arteries. Elsewhere in the abdominal aorta there was severe arteriosclerosis. The left kidney was infarcted, but the right was only congested. The heart was huge, weighing 750 gm. There was a scarred area in the posterior part of the interventricular septum. Elsewhere there was patchy fibrosis. The right coronary artery contained an old thrombus, but all branches were severely narrowed and sclerotic. Although it is well known that cardiac hypertrophy may occur in coronary-artery disease, I believe there must have been some other factor to account for the degree of hypertrophy by a heart weighing 750 gm. The diastolic pressure of 100 in the presence of cardiac failure indicates that this patient had probably had hypertension in the past. The lungs were emphysematous and slightly edematous.

The appearance of the thrombus in the aorta suggests that it arose there and extended retrogradely to occlude the renal arteries, the left earlier and the right later or terminally. There was no source for an embolus in the heart, although one cannot rule out the possibility of a mural thrombus in the left ventricle years previously, with subsequent embolization and superimposed thrombosis of the abdominal aorta.

TUBERCULOSIS SYMPOSIUM

A TOTAL of thirty-five doctors from twelve States, Canada, and Bermuda attended the third annual Symposium for General Practitioners on Tuberculosis and Other Chronic Diseases held in Saranac Lake, July 12 through 16. This is the largest number of doctors ever to attend this Symposium.

It was sponsored by the American Trudeau Society as well as local medical societies. Classes were held in various hospitals, sanatoria, and research facilities in the Saranac Lake area including Trudeau-Saranac Institute, Ray Brook State Tuberculosis Hospital, the Veterans Administration Hospital at Sunmount, the Saranac Lake General Hospital, Saranac Lake Rehabilitation Guild, Stony Wold Sanatorium, and Sanatorium Gabriels. The faculty was composed of physicians, surgeons, and scientists from these institutions as well as those in private practice in Saranac Lake and nearby communities.

This Symposium is approved by the American Academy of General Practice for twenty-six hours of formal credit for its members and is designed to cover all important aspects of chronic pulmonary diseases from the general practitioner's point of view. In addition to lectures and panel discussions, there were many demonstrations in fluoroscopy, x-ray techniques, bacteriology, pathology, and physiology. The family doctors also had an opportunity to make patient rounds at many of the sanatoria located in this area.

It is anticipated that this Symposium will be held for the fourth time next year.

AMERICAN COLLEGE OF CHEST PHYSICIANS

The American College of Chest Physicians registered 1150 physicians and guests at its 20th Annual Meeting held in San Francisco, California, June 17-20, 1955. This was the largest registration of any of the previous College meetings held on the west coast.

The following officers were elected for the year 1954-1955:

President, William A. Hudson, Detroit, Michigan; President-Elect, James H. Stygall, Indianapolis, Indiana; First Vice-President, Herman J. Moersch, Rochester, Minnesota; Second Vice-President, Burgess L. Gordon, Philadelphia, Pennsylvania; Treasurer, Charles K. Petter, Waukegan, Illinois; Assistant Treasurer, Albert H. Andrews, Jr., Chicago, Illinois; Chairm, Board of Regents, Donald R. McKay, Buffalo, New York; Historian, Carl C. Aven, Atlanta, Georgia.

Dr. Howell Randolph of Phoenix is Governor of the College for the state of Arizona.

The 21st Annual Meeting of the College will be held in Atlantic City, New Jersey, June 2-5, 1955.

Interesting TOPICS

RECOMMENDED READING IN CURRENT MEDICAL JOURNALS

BRONCHOGENIC CARCINOMA, a Diagnostic Problem. Stander and Cacioppo, *The Journ. of the La. State Med. Soc.*, April, 1954. A short article emphasizing things which are fairly generally known, and citing 14 cases. Early diagnosis is necessary. Every male patient past the age of 40, and especially the heavy cigarette smoker, should have an x-ray examination of the chest every six months. Every patient with unexplained pulmonary lesion is a subject for consideration of exploratory thoracotomy.

ROENTGENOLOGIC EXAMINATION IN OBSTETRIC CASES. George D. Davis, M.D., Mayo Clinic, Rochester, in *Journal-Lancet*, of June, 1954. This procedure is becoming increasingly useful in obstetrics. The more important indications for roentgenologic examination are discussed, including diagnosis of pregnancy, determination of stage of gestation, prenatal abnormalities (of which there are quite a number mentioned), complications of labor, and pelvimetry. He discussed the fallacious idea that x-ray examinations by qualified radiologists would be injurious to the fetus. It is not.

MANAGEMENT OF BURNS. Reece R. Boone, Jr., M.D., in *West Va. Med. Journ.*, June, 1954. The management of burns is a problem that presents itself almost daily to the general practitioner. Great strides have been made in burn therapy in recent years and the treatment of burns is becoming simpler and more standardized. Points discussed are classification of burns, evaluation of prognosis, shock vs. burn, plasma and fluid needs, mineral balance, Curling's ulcer, treatment of the burn itself, and grafting.

PROSTATIC CANCER, Diagnosis and Treatment. W. W. Scott, M.D., Johns Hopkins Univ., in *The Journ. of the Med. Assn. of Alabama*, April, 1954. Prostatic cancer is symptomless in its curable stage, so that the initial diagnosis rests with the general practitioner. The index finger of the doctor is still the most important diagnostic means of diagnosing this condition. Any hard area in the prostate calls for urologic consultation. Periodic rectal examination of every male over 50 years offers the only possibility of finding more cases of operable prostatic cancer.

RHEUMATOID ARTHRITIS. Comparison of aspirin and cortisone in treatment of early cases. Report of the Joint Committee of the Medical Research Council (England) and Nuffield Foundation. *British Med. Journ.*, May 29, 1954. For practical purposes, there seems to be surprisingly little to choose between cortisone and aspirin in the management of 61 cases in the early stages of rheumatoid arthritis.

BIOPSIES. Another report in the series on Clinical Pathology in General Practice, by Raymond Whitehead, M.D., D. Sc., Reader in Pathology, University of Manchester (Eng.), *British Med. Journ.*, May 29, 1954.

A very practical discussion on the value of biopsies, method of taking and preserving them and the data needed by the pathologist, on cytodagnosis, grading of tumors and biopsy reports. Some very valuable points for those who take biopsies in their offices.

"MYIASIS" in Nasal antrum. From use of aspirator in collecting small insects. Reported by Paul D. Hurd, Jr., of the Univ. of Calif., in *Science*, June 4, 1954. Although aspiration was through a water bottle, infection occurred with hatching of several types of insects in the maxillary antrum.

PHENYLBUTAZONE (Butazolidin). Another series of reports on the use of this drug appear in *British Med. Journ.* for April 3, 1954. One article on uric acid metabolism after its use, one on the Stevens-Johnson syndrome (pyrexia and dermatitis), and two reports of deaths.

SEROLOGICAL TESTS IN DIAGNOSIS. Another articles on the series on Clinical Pathology in General Practice. E.T.C. Spooner, of the London School of Hygiene and Tropical Medicine, presents this discussion in *British Med. Journ.*, April 3, 1954. He says "In this country (England) serologic tests aid diagnosis in enteric fever, brucellosis, leptospirosis, infective mononucleosis, pneumonia, influenza, mumps, psittacosis, virus infections, Q fever and toxoplasmosis.

ELECTROCARDIOGRAPHY. For those interested, a symposium of seven articles on this subject appears in the May, 1954 issue of *Diseases of the Chest*.

RHEUMATOID ARTHRITIS AND CORTISONE. In the *British Medical Journal* of May 15, 1954, a group of observers reporting from the Rheumatism Department of the West London Hospital, give results on treatment of 20 patients, with cortisone, the drug administration extending over a period of two years. They consider this therapy a practical addition in selected cases. It is not curative and they have observed radiologic evidence of progression of joint damage even when symptoms were relieved. Contraindications to this therapy include active tuberculosis, present or past psychoneurosis, diabetes, hypertension, severe osteoporosis and in long standing cases much irreversible joint damage. Seventeen of the twenty cases, though previously incapacitated, were able to return to their occupations, with varying degrees of improvement.

Editorial

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The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules must be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English, especially with regard to construction, diction, spelling, and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. (See MEDICAL WRITING by Morris Fishbein.)
3. Be brief, even while being thorough and complete. Avoid unnecessary words. Try to limit the article to 1500 words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Submit manuscript typewritten and double-spaced.
6. Articles for publication should have been read before a controversial body, e.g., a hospital staff meeting, or a county medical society meeting.

The Editor is always ready, willing, and happy to help in any way possible.

INDUSTRIAL MEDICINE

INDUSTRIAL Medicine will undoubtedly develop as industry expands and the population of our state increases. In many cases the employer, in the interest of constant and dependable medical care of the employee, will seek out and enlist the service of a doctor or clinic. Or, efforts may be made by the doctor or clinic to be listed as Company Physicians. This establishment of liaison between company and physician can definitely prove of benefit to the patient by having available immediate and constant medical coverage. This procedure loses its purpose and becomes undesirable when the patient is forced to accept one medical doctor

against his desire, particularly when his own physician is available. The patient must be permitted his choice of physician. By his selection of physician there is added respect for the doctor, treatment will be more satisfactorily followed and, with cooperation, it is likely that the patient can be returned to full duty at an earlier date; a shorter illness for the patient and less expense to the employer and Industrial Commission. By Industrial Commission regulation the employer can ask to have a patient checked and so prevent malingering and "gold-bricking". The patient in turn desires to receive treatment by the physician of his choice. Forcing a physician upon a patient will destroy good rapport, increase suspicion that he may be returned to work before it is advisable, and approaches a limited form of socialized medicine. We are adverse to "SOCIALIZED MEDICINE" on a national scale; how can we condone it in a limited form? The patient must be given his choice of physician. The medical profession recognizes that this choice must exist. It seems desirable that the Industrial Commission should so inform employers and employees.

D.W.N.

A REMINDER ABOUT SOCIAL SECURITY

Social Security reports are more expensive for the government to handle if they do not show account numbers for employees. These reports are also more expensive to handle if they show incorrect numbers, or if a name reported is different than that shown on the social security card. Help keep down government expense by reporting social security numbers for all of your employees, and by reporting their names and numbers exactly as they appear on their social security cards.

MEETING NOTICE

Nineteenth Annual Meeting

Mississippi Valley Medical Society

New Hotel Sherman

Chicago, Ill., Sept. 22, 23, 24, 1954

Also Meeting at Same Time and Place 11th Annual Meeting

American Medical Writers' Assn., Sept. 24

TOPICS OF *Current Medical* INTEREST

RX., DX., AND DRS.

By Guillermo Osler, M.D.

A physician's estimate of the POLIOMYELITIS situation depends mostly on his contacts in practice and what he reads in medical journals and newspapers. His interest can, however, be made more intense by family or personal involvement. . . . An analysis of the various aspects of polio shows glaring gaps in our knowledge of the disease which make strong men tremble and the ignorant flee. . . . The virus is known, but can't be demonstrated in the ordinary lab. There is no test for the disease, and tests of effect (spinal tap, etc.) are irregularly helpful. There is no precise knowledge of transmission, no certain information on the hazards of contact or the period of communicability. There is no specific treatment and no (as yet) proved means of prophylaxis. . . . It can safely be said, brother, that we have some work to do.

The Michigan State Medical Society must have been pleased with this year's PROGRAM. It is interesting, and for several reasons. . . . They had 27 speakers, including such famous medical names as Capps, O'Leary, Smillie, and Snapper. . . . They had a guest from Arizona (W. P. Holbrook of Tucson) . . . They also had three justly and personally famous sons of famous medical fathers, C. W. Mayo, George Crile, Jr., and C. A. Janeway.

It is surprising to find a person for whom A SEDATIVE IS NOT A SEDATIVE. Some people do not react 'normally' to barbiturates, and the reaction may be to a specific preparation. . . . Others may develop a chronic barbiturate intoxication, with speech disturbances, tremors, ataxia, decreased reflexes, drowsiness, disorientation, delusions and even euphoria and excitement. . . . Such signs and symptoms may be the tip-off to an underlying condition, since patients with kidney disease, liver damage, hyperthyroidism, severe anemias, diabetes, and cerebral arteriosclerosis do not tolerate barbiturates well.

Three St. Louis surgeons (Heifitz, Richards, and Lawrence) have reported in the 'Archives of Surgery' that WOUND-HEALING after surgery (in the absence of drains) heals just as well WITHOUT DRESSINGS as with dressings, for 24 hours or for the customary several days. . . . In addition there is a saving of dressings, greater comfort, no adhesive tape reactions, and an ease of observation (but the surgical-supply companies won't like it) . . . This undressing of wounds comes at a time when tapes are becoming more

versatile, tape-removing fluids are available, and even spray-on dressings have been invented. They all still have a place, however.

TREATMENT No. 128 FOR TRICHOMONAS VAGINALIS VAGINITIS. E. G. M. Krieg of Detroit briefly summarizes his work as follows: "Trichomonas has been associated with a LOWERED BASAL METABOLIC rate in all our cases. All have responded to adequate amounts of thyroid extract. Further differential investigation is indicated."

The General Electric 'X-Ray News' recently contained a brief 'brief' for SECTIONAL RADIOGRAPHY by Dr. Irving Kane of New York. (It just so happens that Dr. Kane has written a book on the subject, but this coincidence is not only good for Dr. Kane, but for G. E. and the public). . . . He calls the method "bloodless dissection", and believes that no one with a pulmonary lesion can be completely diagnosed, and no lesion can be expectantly treated, and no physician's reputation is entirely safe if sectional films are not freely taken. . . . He describes the process by which a selected plane is clearly recorded as being due to shadows cast by normal and abnormal structures when a "reciprocal motion of the x-ray tube and film takes place throughout the period of x-ray exposure".

The new attitude towards the PATIENT AND HIS BLOOD PRESSURE ain't what it used to be. It is now suggested that the patient not only must know the levels, but may have to have daily pressures taken at home. . . . It has been demonstrated (by Freis of Georgetown, in the Medical Annals of D.C.) that blood pressures taken in the office, after discharge from the hospital, are notably higher than when taken at home in two-thirds of the patients. . . . This makes the prescription of ganglionic-blocking drugs quite difficult, and makes home pressures not only legitimate but necessary. (The particular drug used by Freis was pentaptyrolidinium.)

DR. PHILIP HENCH is noted to have given a paper before a regional meeting of the A.C.P. on "The Cortisones and Corticotropins in Rheumatoid Arthritis". . . . What he has to say must be constantly interesting to any audience, but when he gets asked to speak he must sometimes say, "How many times, O Lord?"

Strickler and colleagues of Minneapolis report

Doctor, are you playing second fiddle to a TV set?

A lot of people who are worried about paying doctor bills forget their worries by watching their brand-new TV sets.

And how can they buy an expensive TV set when they can't pay a doctor bill? The answer is Easy. Easy Terms, that is.

The Budget Plan for Health enables you to offer easy terms, too. It works wonderfully! You get paid immediately, without recourse; the grateful patient has months and months to settle his account in easy payments.

Try the Budget Plan for Health. For details, call "Bud" Gray at the Phoenix Office (ALpine 8-4888) or Bob O'Rourke in Tucson (3-9421).

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Downtown: 407 Professional Bldg.

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on the use of GALL-STONE SOLVENTS in 'Minnesota Medicine'. (This is not to be confused with the apparently futile attempts to dissolve stones in the urinary tract). . . . They say that 16 to 25% of operations for choledocholithiasis are followed by retained stones. They describe a routine for flushing the ducts, including use of a topical anaesthetic and the use of ether as the best solvent. Lay persons may be allowed to do the procedure, since it must often be done daily for months. . . . Results in the Minneapolis area have been good, and Pibram and others have a high rate of success. . . . Nice to know for the rare cases which occur.

'Medical Economics' (a journal which likes pictures of our editors) is not afraid to criticize SACRED COWS if it seems indicated. . . . They recently have commented on a report which 'The Commission on Financing of Hospital Care' has made after a two-year study. The suggestions do seem rather general, and the grant was for \$500,000. . . . Med. Ec. calls it "a fine example of an elephant giving birth to a mouse", and that it is (as our English cousins would say) "a crashing bore."

Individual reports continue to be heard about the favorable effects of the Rauwolfia serpentina group of drugs, and in 6 to 12 months there should be several large series in print. . . . The indications and results of CHLORPROMAZINE should also be better known. It is another interesting and versatile drug; the prevention of nausea and the management of disturbed psychiatric patients have previously been reported. . . . Albert and four colleagues of Washington have now reported its use in 64 alcoholics. Twenty-one had D.T.'s and the remainder a psychomotor agitation. . . . The drug was given intravenously, intramuscularly, and orally. The IV dose is hardest to give in a restless patient, has the quickest action (in 15 minutes, during the infusion), and has the greatest side effects (tachycardia and hypotension). The authors consider that IM and oral use make IV administration unnecessary. . . . IM chlorpromazine is effective in about an hour, and relaxation and sleep occur without hypotension. The effects last 6 to 8 hours, and can then be repeated. IV fluids may be given after relaxation occurs. Oral dosage is quite useful, with effects in 60 to 75 minutes, and it can be used following initial IV or IM doses. . . . The duration of the excitatory stage is not shortened by the drug. It did not produce intense CNS depression. The occasional convulsions of acute alcoholism did not occur in their series. The hypotension was a problem only when the patients were allowed to rise from the horizontal. . . . The patient reaction is almost too good, since they are said to waken without the jitters which follow use of paraldehyde. The mode of action is not certain, but it may be hypothalamic, with a blocking effect on the dience-

phalon. The dosage by all routes is 100 to 200 mg.

Don't have your chest x-rayed, Doctor, unless you want to, 1. Be reassured about your normalcy; 2. Find an occasional small lesion of the heart or lungs which can be easily handled; and/or, 3. Be a very fine example to your patients and the public. (Adv'l.)

A British STUDY OF TELEPHONES has confirmed a general feeling that the risk of respiratory infection from ordinary use is remote. . . . No pathogens except staph and pneumococci were found. More positive swab cultures were found on earpieces (17%) than mouthpieces (7%). . . . No tubercle bacilli were found in the small series (150 examinations). (We'd like to know of a larger series of sanatorium 'phones, just to be sure of the potential of instruments more possibly contaminated). . . . Disinfection made little difference in the culture results.

BRIEF REMINDER: There are more persons under treatment for tuberculosis now than ever before. . . . The cause is due to better case-finding methods (and better usage), and the preservative effects of new treatment which keep people alive and/or well.

Another comment about TB case-finding (and another note from 'Minnesota Medicine') concerns the use of ROUTINE X-RAYS OF ALL ADMISSIONS TO GENERAL HOSPITALS. . . . Dr. Medelman of Minn., and Dr. Anderson of the U.S.P.H.S. each has a plea for greater use of the method in Minnesota. Even in that enlightened state (where Dr. J. A. Myers claims the disease is under control) they find 2,000 'new' cases per year. It is a good diagnostic method; a good investment; a good public health measure; and a neglected procedure. Forty hospitals use it, but only 'to some extent', and only forty of the several hundred in the state. . . . We can (and have) attacked the incomplete usage of routine x-raying in Wisconsin, California, Minnesota, and the United States in general. Arizona can feel a certain pride that it is not being omitted; the usage here is just as occasional as most places and, according to the mortality rate, far more necessary. All the hospitals have to do is "get a-moverin'".

Have you heard physicians (even chest specialists) say to patients "Don't have a sputum examination during a 'cold'. It might be positive", and if so, what do you think of it? . . . We say "Pew!" If a person has a positive sputum (or gastric) it means active disease. Active disease should be diagnosed whenever possible. If you miss a chance, who gets fooled? . . . The tubercle bacillus never says "King's X", or "we won't hurt anybody if he has his fingers crossed".

Another note on pulmonary difficulties concerns 'FARMER'S LUNG', a name for broncho-

pulmonary moniliasis. . . . Once considered to be improbable, or possibly a secondary infection, it now seems that it can be primary under some conditions. One of these conditions is exposure to a dusty farm milieu, especially to moldy silage. . . . Soucheray reports a series of cases from the Midwest in which exposure to ensilage resulted in chronic bronchial symptoms, dyspnea and cyanosis, patchy (and other) lung lesions, and acute symptoms to recurrent exposures. Bacterial diagnosis is difficult in both acute and chronic infection. . . . The term 'Farmer's Lung' came from publications in England and the Scandinavian countries. The extent of the lesions depends somewhat on the continuance of exposure, from bronchitis to pneumonitis to fibrotic and even cavitative types. It is still not certain whether the monilia is a primary invader, but exposure in animals suggests that it may be.

OSTEOPATHS APPROVE ON-CAMPUS VISITS

(AMA Secretary's Letter No. 294 -
August 4, 1954)

THE House of Delegates of the American Osteopathic Association, meeting in Toronto last July 15, approved on-campus visits of its schools by an A.M.A. Committee to determine the quality of medical education provided.

This step dates back to the A.M.A. House of Delegates session in 1952 when a Committee for the Study of Relations Between Osteopathy and Medicine, headed by A.M.A. Past-President John W. Cline, was created. As many doctors know, the Committee did a great deal of work since it was organized.

At the A.M.A. June meeting in San Francisco this year, the Committee submitted "a progress report" to the Board of Trustees, which was later adopted by the House of Delegates.

The Committee's three-page typewritten report said that "the justification or lack of justification of the 'cultist' appellation of modern osteopathic education could be settled with finality and to the satisfaction of most fair-minded individuals by direct on-campus observation and study of osteopathic schools. The Committee, therefore, proposed to the Conference Committee of the American Osteopathic Association that it obtain permission for the Committee for the Study of Relations Between Osteopathy and Medicine to visit schools of osteopathy for this purpose."

Two important paragraphs of the A.M.A.'s Committee report said:

"It was agreed that each school would be visited

by two members of the Committee, accompanied by an individual of established experience in inspection of medical schools. The studies would be of sufficient duration, breadth and depth to establish the nature and scope of the educational program and determine the quality of medical education provided.

"The Conference Committee favorably recommended this proposal to the Board of Trustees of the American Osteopathic Association which considered it at a special meeting on February 6-7, 1954. It has referred the question to the House of Delegates which will act upon the proposal at its Toronto meeting in July. If the action of the House of Delegates of the American Osteopathic Association be favorable, the on-campus observations can be carried out in the fall of this year."

The action of the House of Delegates of the American Osteopathic Association was favorable. The Association issued a statement last week setting forth the action of its delegates. It is rather lengthy, but since it is so important to our study so far I quote it herewith in full:

"The House of Delegates of the American Osteopathic Association in session in Toronto July 15, 1954, directed the Conference Committee to continue in its deliberations with the committee for the Study of Relations Between Osteopathy and Medicine of the American Medical Association.

"In expressing its confidence in the four years work of the A.O.A. Conference Committee, the House agreed that the Committee should have the authority to negotiate with the A.M.A. Committee on possible visitation by the latter of osteopathic colleges. The purpose of this visitation would be to observe the nature and scope of their education programs. This observational opportunity would be conducted entirely within limits agreed upon by the two committees. The immediate purpose of such on-campus visitations is to provide information to the A.M.A. Committee to assist in its efforts to remove the cultist designation from the osteopathic profession.

"The House of Delegates of the A.O.A. in its approval of such visitations has established no new precedent, except that the proposed visitations would permit a private agency to determine for itself osteopathic educational programs and procedures. A much wider permission has long been afforded to official state

examining agencies, granting agencies of the U. S. Department of Health, Education and Welfare, and other official groups to visit osteopathic schools. If the A.O.A. Conference Committee permits observation of osteopathic colleges by a private agency — it does so on the basis the American Osteopathic Association has long indicated its willingness to cooperate with the authorized group of any profession 'wherever that cooperation may be expected to improve the health service offer the public.'

"Approval or accreditation of osteopathic colleges is entirely without the province of observational bodies and any visitations by the Committee on Relations Between Osteopathy and Medicine, if made, will be made purely for the purpose of affording a private agency an opportunity to inform itself about osteopathic educational programs.

"In commenting on this action, the newly elected President of the American Osteopathic Association, John W. Mulford, D. O., of Cincinnati, stated that the action was taken by the House of Delegates 'with the complete confidence that neither the osteopathic profession nor the medical profession wishes to inflict its officialdom on the other.' He went on to say that the action of the A.O.A. House of Delegates could be considered as 'a logical outgrowth of the mutual respect which the two schools of healing hold for each other.'"

WATCH "MEDIC" — Channel 12 KVAR-TV

MEDICINE IS the hero of an entirely new national television program. Medicine as you and I know it . . . medicine as you and I would like the American public to appreciate it.

The program is entitled MEDIC. The first program in this new weekly series will be on Monday night, September 13, 9:00 EST, over the NBC network. I am writing you because this program carries the official endorsement of the Los Angeles County Medical Association.

Our profession does not arrive at decisions hastily — in practice or in ethics. Our decision in this case has been carefully weighed and

examined for two years; and many of us have lived and worked with this program, because it is a tradition-breaking forward step in medical public relations.

It was that long ago that James Moser, creator-writer of MEDIC, came to us with this idea; case histories of medicine presented with documentary truth; filmed under the technical supervision of a doctor appointed by us; demonstrating medicine's daily and historic contribution to living; pointing toward a better public understanding of the science and the art of medicine; and establishing a new rapport between patient and doctor.

Each case described in the MEDIC series tells the story of treatment of a patient by a doctor. Each script is approved by us; a physician is present on every set.

In addition to medical supervision and approval of scripts, we reserved the right of sponsor approval. Dow Chemical Company chose to sponsor MEDIC, and we doubt if one more acceptable could have been selected. We believe you will compliment Dow and NBC for their service to medicine and to the public.

I urge you to watch MEDIC. I urge you to tell your friends and patients about it. You will be proud of the manner in which is mirrors medicine's place in progress and your contribution to everyday living.

J. Philip Sampson, M.D.,

President, L.A. County Medical Society

AAPS ESSAY CONTEST FOR 1955

The ninth annual national essay contest for high school students sponsored by the Association of American Physicians and Surgeons has been announced. The subject is "The Advantages of Private Medical Care," and the prizes range from \$1,000 for the first prize to \$25 for the sixth prize. State and County Medical Societies are urged to cooperate in this contest. Further information can be obtained from your local membership of the AAPS or by addressing Dr. Mal Rumph, Chairman, AAPS Essay Contest Committee, Suite 318, 185 North Wabash Avenue, Chicago 1, Illinois.

Organization PAGE

CIVICS

Norman A. Ross, M.D., Phoenix, Arizona

UNITED CEREBRAL PALSY ASSOCIATION OF CENTRAL ARIZONA, INC., 103 NORTH CENTRAL AVENUE, PHOENIX, ARIZONA.

"Cerebral Palsy", a textbook, the author of which is Cyril B. Courville, M.D., is available without charge to members of the Arizona State Medical Association. It will be mailed either to your home or office. Please address your requests to the United Cerebral Palsy Association of Central Arizona, 718 Security Building, Phoenix, Arizona. This book is available after September 1, 1954.

The descriptive material furnished us by the United Cerebral Palsy Association is to the effect that there are the usual sections, history, etiology, pathology, with discussion of resultant clinical syndromes; and a complete section

on treatment. Advice is to the effect that the book is profusely illustrated, adequately and properly indexed, and contains biography. The author, Cyril B. Courville, M.D., is Professor of Nervous Diseases at the College of Medical Evangelists, and Chairman of the Allied Services Committee Los Angeles County Chapter of United Cerebral Palsy.

This book is to be offered later to interested laymen, particularly lay educators. In that additional books are to follow and be distributed through our's and these other groups, we recommend ordering this book.

Considering the broad social activities of members of our auxiliary, we suggest this book for your home library.

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ARIZONA SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, INC., 207 ARIZONA TITLE BUILDING, PHOENIX, ARIZONA MOBILE DIAGNOSTIC CLINICS

And Follow-up Services

Location	Area.	Diagnostic Clinics (Division of Crippled Children Services)		Follow-up Physical and Speech Therapy Services (Easter Seal Society)	
Ajo	Ajo	Sept. 5	(Sunday)	Sept. 6, 7	(Mon., Tues.)
Bisbee	Cochise Co.	Sept. 12	(Sunday)	Sept. 13 - Oct. 16	
Nogales	Santa Cruz Co.	Oct. 24	(Sunday)	Oct. 25, 26	
Coolidge	Pinal Co.	Oct. 31	(Sunday)	Nov. 1, 2	
Flagstaff	Coconino Co.	Nov. 7	(Sunday)	Nov. 8, 9	
Yuma	Yuma Co.	Nov. 14	(Sunday)	Nov. 15 - Dec. 17	
Douglas	Cochise Co.			Jan. 9 - 12	
Globe	Gila Co.	Jan. 16	(Sunday)	Jan. 17 - Feb. 18	
Kingman	Mohave Co.	Feb. 27	(Sunday)	Feb. 28 - Mar. 1	
Safford	Graham Co.	Mar. 13	(Sunday)	Mar. 14 - April 15	
Clifton	Greenlee Co.	Apr. 3	(Sunday)	(both Safford, Clifton - Morenci)	
Winslow	Navajo Co.	Apr. 24	(Sunday)	Apr. 25, 26	
Prescott	Yavapai Co.	May 7	(Saturday)	May 8 - June 10	
Safford	Graham Co.			June 14, 15	
St. Johns	Apache Co.	June 19	(Sunday)	June 20, 21	
Coolidge	Pinal Co.			June 23, 24, 25	

The above diagnostic clinics will operate as before in all counties but they will be under the direction of the Crippled Children's Divi-

sion of the State Department of Public Welfare.

The post-clinic followup will be the responsibility of the Arizona Society for Crippled Chil-

dren and Adults. Provision is being made for follow-up by speech and physical therapists. Intense follow-up will be done in five, five-week clinics which will be held in the following areas: Cochise, Yuma, Globe-Miami-Superior, Safford-Clifton-Morenci, and Yavapai. The United Cerebral Palsy Association of Arizona is to join in this program as are such service groups as the Kiwanis Foundation and Lions Clubs. It is hoped that other service groups will cooperate.

This cooperative plan is considered to be "the foundation for consolidation of efforts of both public and private agencies on behalf of the handicapped in order to give the best service possible with facilities, staff and funds available."

Advice is to the effect that this programming is at a state level, that public health units and the Polio Foundation are giving consideration to it.

It is to be noted that local agencies and organizations are returning their identity but will be asked and encouraged to participate in the state wide cooperative clinic program.

NATIONAL FOUNDATION FOR INFANTILE PARALYSIS, 120 Broadway, New York 5, New York, State Office 39 West Adams, Phoenix, Arizona.

Why transfer polio cases from Arizona?

Since 1951, the National Foundation has appropriated about \$1,400,000 for assistance in the establishment of centers in which local chapters help pay individual patient costs as needed. The centers are part of a long-range program initiated by the National Foundation with the following primary objectives:

1. To free patients as much as possible from dependence upon tank respirators and to provide maximum rehabilitation;
2. To gain more knowledge about the problems with breathing difficulties in both acute and chronic polio patients and thus develop better methods of care;
3. To establish and maintain teaching programs for professional personnel in the care of polio patients with breathing difficulties;
4. To plan programs for the care of patients in home environments and to develop special teaching and consultative services for physicians in other hospitals caring both for acute and long-term patients.

The Answer:

The establishment of these centers followed a three year pilot study of respirator cases treat-

ed at Children's Hospital School in Baltimore. These studies disclosed that patients could make better progress when grouped together for care. ARIZONA TUBERCULOSIS AND HEALTH ASSOCIATION, 111 East Willetta, Phoenix, Arizona.

This marks the third year that the National Tuberculosis Association in cooperation with the American Hospital Association and the Public Health Service are demonstrating the value of routine hospital admission screening x-ray programs at the annual meeting of the American Hospital Association in Chicago, September 11-17, 1954. A representative of the three organizations will be present to answer questions.

The Arizona State Tuberculosis Association through its special committee on chest x-ray is in the process of developing a joint activity with the Arizona Division, American Cancer Society and the Arizona Heart Association. This includes routine hospital admission x-ray programming as well as a broad program of chest x-ray.

MUSCULAR DYSTROPHY ASSOCIATION, INC., MARICOPA COUNTY CHAPTER, 4431 NORTH 7th AVE., PHOENIX, ARIZONA.

"The Letter Carriers' March for Muscular Dystrophy" in November of 1953 produced more than \$3,500.00 for this agency. This money in the main will be used to foster research into all phases of this disease. A portion of these funds will go to organizing community and regional treatment facilities.

The growth of this organization is phenomenal. Its beginning was in 1950 in New York City and at that time included only a few parents. In a matter of months a national organization developed and in January of 1954, research grants totalling almost a million dollars were in effect.

It is pointed out in their circulars that in America today the general public is showing its willingness to assume the responsibility of an active partnership with men of science.

Representatives of this organization advise that American teamwork is most needed in our state. Arizona laymen and physicians alike are being requested to report all known or suspected cases. The national representative stated that the known cases here, a total of seventeen, is many times less than must exist in our state.

Muscular Dystrophy is primarily a research program but Arizona can receive little effect of this study if the dystrophy case is not found.

ARIZONA *Pharmaceutical* PAGE

THERAPEUTIC AIDS

By Joseph A. Zapotocky, Ph.D.

Pharmacy College, University of Arizona

MANY years hence our present era will probably be classified historically as the synthetic age. We have but to observe about us the vast scope and the versatility of modern synthetics. Even in medicine, the armamentarium at the physician's command is predominantly of synthetic or bio-synthetic origin. Very few natural products of plant or animal origin remain in use as compared to all those used a quarter or a half century ago. The synthetic medicinals of the past decade or two have evolved at such a tremendous rate, and many have been so spectacular, that a less glamorous group of synthetics has gone almost unnoticed except by a few. In this group of products are the numerous vehicles, solvents, emulsifiers, protectives, buffers, preservatives, and ointment, cream, lotion, and suppository bases usually classified as therapeutic and compounding aids. They possess no therapeutic action of their own, but they are necessary for the correct formulation of many old and new medicinals. The physician and pharmacist must have a working knowledge of these agents which increase absorption, slow deterioration, and enhance the effective use of many drugs. Many failures of medication may be attributed to a lack of knowledge of these new therapeutic aids. For example, a solution of an antibiotic in distilled water may be almost worthless whereas a solution of the same antibiotic in a properly buffered vehicle can be very effective; an age old petroleum base may be a poor choice as an ointment base if there is an improper release of the medicinal agent; and the proper use of preservatives may prevent reinfection with solutions which may be easily contaminated with bacteria or molds.

Two of the most versatile therapeutic aids are the cellulose derivatives, methylcellulose and sodium carboxymethylcellulose. Both are water soluble, non-ionic agents which act as excellent carrying agents for most medicinals. They occur in various viscosity types which, when properly handled, may serve as highly compatible ointment or lotion bases, emulsifiers, and suspending agents. Their solutions are very stable and, in certain concentrations, serve as excellent bases for ophthalmic and nasal preparations.

The polyethylene glycols or Carbowaxes are hydrophylic polymers which, depending on their molecular weight, vary in consistency from liquids to wax-like solids. They are bland, highly compatible products, which may be mixed in various proportions to serve as ointment, lotion, or suppository bases and as solvents or carriers for numerous medicinal agents.

The sorbitans (Spans) and their polyoxyethylene derivatives (Tweens) are non-ionic surface active agents which are effective as solubilizers and emulsifiers. They may form oil in water or water in oil bases of a lotion, ointment, or suppository consistency. They enhance the dispersibility and release of the medicinal agent incorporated with them.

Numerous other anionic, cationic, and non-ionic agents are available and have outmoded and outperformed the few available therapeutic aids of the past. The use of these and the use of buffers, preservatives, and protectives are almost as important for successfully combating disease with certain types of medication as the medication itself. Formulas containing such agents are frequently reported in medical literature. The pharmacist through his training and the scientific literature available to him is prepared to cope with the compounding problems involving these new therapeutic aids. The modern medicinal agent needs its counter-part — the modern therapeutic aid.

Woman's AUXILIARY

A LETTER FROM THE PRESIDENT



Mrs. Brick P. Storts

Dear Auxiliary Member:

I am very proud to represent you as president of the Woman's Auxiliary to the Arizona Medical Association. I am looking forward with much enthusiasm to my visits with you this fall and winter.

Each one of us, as an auxiliary member, can serve as a public relations agent in our community organizations. If we are to do this, we must keep informed concerning A.M.A. activities and current legislation. Read the letters and pamphlets sent to your husband from his A.M.A. and his Washington representative. Often we, as wives of doctors, must be the public relations agents for our busy doctor husbands. We must help him see the public viewpoint as we in turn strive to bring the doctors' views, aims, and problems to the public.

We must continue to grow in membership; increase our contributions to the American Medical Educational Foundation; foster nurse recruitment; give more loans for nurses' training; be informed on Civil Defense; support the sale of "Today's Health"; sponsor future nurses clubs; and continue to be cognizant of pending legislation concerning health and welfare. Fore-

most in our minds must always be the question, "What can I do that will be of most service to my community in the field of health?" One auxiliary member is often the only medical impression that some persons get; therefore it is most necessary that we are well informed and can clearly tell others of our aims. Our organization is only as strong as you individual members. Our accomplishments will be only as great as you desire to make them.

May I urge each one of you to extend and enlarge your contacts within the educational, civic, and religious groups of your community. Thus we will make the work and accomplishments of every doctor's wife in every field of endeavor pay dividends to the auxiliary and to the professional family.

Most sincerely,
Gladys Storts (Mrs. B.P.)

ANNOUNCEMENT OF THE VAN METER PRIZE AWARD

The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held in Oklahoma City, Oklahoma, April 28, 29 and 30, 1955, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English, and a typewritten double space copy in duplicate sent to the Secretary, John C. McClintock, M.D., 149½ Washington Avenue, Albany, New York, not later than January 15, 1955. The committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for the presentation of the Prize Award Essay by the author, if it is possible for him to attend. The essay will be published in the annual proceedings of the Association.

John C. McClintock, M.D.
Secretary

ARE MALPRACTICE CLAIMS PREVENTION PROGRAMS WORTH WHILE?

By Howard Hassard, Esq.
of Peart, Baraty & Hassard
San Francisco, California

Suppose we analyze the title of this address point by point, in an effort to discern the underlying factors that cause the question to be posed.

1. First, "WHAT IS TO BE PREVENTED?"

To answer this, a brief historical review is appropriate. Regan tells us that in the decades between 1900 and 1940 there was a 540% increase in the number of malpractice cases that reached the appellate courts in the United States as a whole. In the year 1940 the total number of such cases was 33. In 1953 there were 32.

These years were picked at random. They indicate a plateau, which practical experience confirms. The volume remains at least five times the 1900 incidence.

Dr. Regan's statistics demonstrate the tremendous rise in the incidence of malpractice suits in the past fifty years. Further, a little research in a law library discloses that the increase is perhaps more noticeable in the largest metropolitan centers, but that it is by no means confined to any one area. It can not be localized.

Lest physicians assume that they are being singled out by the public for special torture, it must also be understood that all forms of personal injury litigation have dramatically increased since World War I. Mass production of the automobile has wrought many changes, one of them being increased frequency of accidental injuries or death and increased resort to law for redress.

When people become suit conscious in general, they tend to think in terms of legal action for any and all real or fancied grievances. Fifty years ago a guest in a home would consider it ungentlemanly to sue his host, because after the third martini he wandered through a plate glass window. Now, suits of this type are not too uncommon.

With the public litigation conscious, there is an evitable tendency to commence legal action, not only when warranted, but also when there is just a bare chance of recovery; sometimes even when there is no legitimate cause for complaint.

Within the field of professional liability, the main activity that can be "prevented" is the fraudulent or false or vindictive or long-shot suit that is not predicted on just cause. The meritorious action not only cannot be prevented, but ought not be impeded. However, to separate the sheep from the goats and thereby reduce the incidence of nuisance claims would drastically curtail professional liability actions, and in of itself is a justifiable reason for a claims prevention program.

2. Second, "WHAT IS MALPRACTICE?"

"Malpractice" is the commonly used term to

describe the liability at law of physicians and surgeons for torts committed during the course of their practice. Properly stated, it is "professional tort liability". A "tort" is a violation of one's duty to use reasonable precaution for the safety of others, resulting in an injury to another.

By law, we all are obliged at all times to be reasonably careful of the safety of others. This applies to each of us everywhere. If one of you should suddenly jump up, knocking over your chair in the process, and if the chair injures the person sitting behind you, you may find yourself the defendant in a tort action for having failed to use ordinary care. Most of you, no doubt, carry insurance against this liability called "public liability coverage".

As applied to physicians, the law requires that each physician possess the average skill found amongst fellow-practitioners doing the same work in his own community, and that he at all times exercise ordinary prudence and thoughtfulness in the application of his skill to his patients. The failure to live up to these obligations is called "malpractice".

The ordinary personal injury suit against the average person involves his pocketbook only. Hence, if he is adequately insured he gives the fact of a suit against him a very superficial concern.

But to a physician, or any other professional man, a professional liability suit involves something else that is much deeper, much more important. His professional reputation, his very livelihood, his pride and his self-respect are all at stake. In his mind, it is an accusation akin to a charge of dishonorable conduct. It is humiliating.

Therefore, we must not look solely to the financial aspects of malpractice.

Each physician, in order to avoid the humiliation of a liability suit, must become thoroughly familiar with the various rules of law, that together, constitute the law of malpractice. He must intimately know the rules of the game.

Medical schools are not law schools. Hence the practicing physician must acquire his knowledge of the law that governs him after he is in practice, and he must either acquire this knowledge haphazardly or systematically. He will pick up his concepts either on a hit-or-miss basis from dubious sources, or he will acquire it in an orderly fashion from teachers that know at least as much as the student.

A systematic, well-organized professional educational program in the field of malpractice has the possibility of achieving a tremendous reduction in the incidence of malpractice claims and suits. By educating physicians to their legal responsibilities and to the required conduct in carrying out those responsibilities, approval of the law, the public and patients may be obtained and maintained.

Malpractice has another most important facet that must be understood in any discussion of a claims prevention program.

All physicians today are, or ought to be, insured against professional liability. This insurance, however, is far from the ordinary run-of-the-mill public liability coverage.

It is true that the legal theory underlying responsibility for running down a pedestrian or for burning a patient with an ultra-violet lamp are one and the same; but beyond that, all resemblance ceases. From the moment of knowledge, the investigation, claims analysis, preparation for defense, and defense of an automobile personal injury case are standardized, not too difficult to master, and fit into the ordinary operations of any insurance claims department or law office.

Neither the investigation, claims analysis, preparation for defense, or defense of a malpractice claim are in any way comparable to that of other personal injuries. An investigator must know enough about the practice of medicine to be able to know what to investigate when a claim of malpractice has been made. The analysis of the results of the investigation require expert medical judgment. The defense of a malpractice case in court involves specialized training in this field. The rules of evidence and the substantive rules of law are different than in the ordinary personal injury case. The lawyer must understand the medical aspects thoroughly, so that he can communicate in ordinary English to the judge and jurors the issues and facts involved.

Recently, I appeared in Federal Court at Salt Lake City, and while awaiting the commencement of our trial, I sat in the courtroom and observed the case that preceded us, which was a suit by the Navajo Nation against the United States for damages resulting from the destruction of Navajo horses by agents of the United States Indian Service. The witnesses were all Navajo Indians who could not speak English; and interpreting was necessary; each question was translated by the interpreter into Navajo; when the witness replied the interpreter translated the answer. The net result was that the trial took twice as long as it would have if court, jury, counsel, and witnesses all spoke in a commonly understood tongue.

This is an extreme example, but a malpractice trial is similar. Medical terminology must first be understood by counsel, and then converted into language understood by judge and jurors.

It is obvious that insurance companies that have a few malpractice policies outstanding in a community cannot afford to set up separate specialized malpractice claims departments, or employ attorneys who specialize in malpractice defense. Premium volume is too small to warrant tailor-made or custom handling. To justify expenditure of funds for special treatment of malpractice policies, there must be a substantial volume, which means all or most of the physicians over a large area.

Needless to say, an insurance carrier, unless it has a large volume, cannot afford the further expense of a specialized prophylaxis or prevention program. Fire insurance companies, with all of

their business at risk, can afford to spend substantial sums of money in fire prevention programs. Workmens' compensation insurers, with hundreds of thousands of employees insured, can afford to spend money on safety programs. But an insurer with a few hundred scattered physicians insured simply can't do it.

One essential of insurance is spread of risk. The whole field of physicians' professional liability in the United States is limited to approximately 160,000 physicians. If one company insured all, the insurance base would be minor, as compared to twenty million automobile owners, or fifty or sixty million homes, or the sixty to seventy million people covered by workmens' compensation.

Hence, one of the inherent problems in malpractice insurance is the limited market, and the consequent limited ability, of any one carrier to conduct the equivalent of a safety program.

3. Third, "WHAT IS A PROGRAM?"

In northern California, twenty-three county medical societies now have professional liability insurance contracts with the same insurance carrier, American Mutual Liability Insurance Company. In all, close to four thousand physicians are participating. While each county has its own group contract, the program is substantially the same from Fresno in the south to Siskiyou in the north.

Each county has a medical committee. In the early stages of each claim against a physician, the facts are fully investigated by claims representatives of the insurer, who devote their entire time to this type of work. As claims adjusters, they are "specialists" in professional liability work.

When the case is investigated, the facts are then submitted to the society's medical committee. The members of the committee discuss and debate the case, sometimes call for more investigation, sometimes ponder their decision at length, on other occasions reach a conclusion fairly rapidly.

In any event, the committee satisfied itself that it has considered all the material facts, and the recommends either

1. That the claim has merit and that the claimant should be fairly compensated; or

2. That the facts do not disclose any medical dereliction on the part of the accused physician, and that the case should be defended.

To date, in each instance the insurance carrier has abided by the recommendations of the appropriate committee.

The functioning of the society's committee does not, however, terminate with recommended action. If it has recommended that the case be defended, the members of the committee then actively and voluntarily assist in the preparation of the defense and in the actual trial of the case. To the defense attorney, this is of invaluable aid. Incidentally, it reduces the cost of defense substantially.

Finally, the members of the various medical committees also appear before various professional

audiences, and from their experience undertake to explain to the practicing physician the legal pitfalls that beset a doctor and the conduct which be adhered to to avoid legal liability.

The physicians who serve on these committees obtain "occupational experience". They know from having experienced specific cases what the problems are, and what information a physician needs to conduct "good practice" rather than "bad practice".

Admittedly, the program in California is far from perfect. A great deal more could be done, and should be done, to inform all physicians of their legal obligations, and to enable them to avoid the humiliation of a malpractice suit.

More manpower than has been available to date is no doubt needed. But at least we believe that this program is a sensible beginning. We feel that malpractice claims are intelligently analyzed, and that time and money is not wasted in endeavoring to defend the indefensible. On the other hand, unwarranted claims are discouraged in that nuisance settlements are not made. If the case is unjust it is defended; it is not settled, no matter how cheap it can be bought.

Physician participation in the trial of cases is obtained on a voluntary cooperative basis, and above all the physicians who serve on the medical committees become experienced in and aware of the problems involved, and are able to do missionary work amongst their colleagues.

The results of such a program require years to become really measurable. We feel that at least

ten years, and probably fifteen years, must elapse—and we are now only in the fifth full year—before any reliable inventory can be made.

However, the results to date indicate to us who are close to the picture that we have at least halted that steady increase in the incidence of malpractice claims and suit noted by Dr. Regan, that commenced early in the century and that has continued without interruption for fifty years.

"Some few of the companies are reluctantly writing business at the Bureau rates. One company will write for only their own agents and will cover x-ray therapy, providing the assured has been certified by the American Board of Radiology or is a member of the American Roentgen Ray Society or the Radiological Society of North America. Another company will write for its own agents only and will not write or renew existing policies for brokers. In addition, the applicant must promise the company all of his insurance business as collateral."

Physicians are in jeopardy until the insurance industry again is **interested** in insuring them. This will not occur unless and until the risk in professional liability insurance is lessened materially. The **risk** won't decrease of its own accord. A real, vigorous and widespread but grass roots program — by the medical profession itself — to educate its members to their legal duties, to advise and assist when trouble brews, and to fight relentlessly all **unjust** claims, is the only prudent course of action, if disaster is to be avoided.

VALUABLE ARTICLES IN CURRENT JOURNALS

DIVERTICULITIS AS A SURGICAL ENTITY. Chas. S. White, Jr., M.D., Medical Annals of the District of Columbia, March, 1954. A good two page summary, the gist of which is that chronic and recurrent diverticulitis are amenable to a single stage surgical procedure.

MITRAL STENOSIS. This is Part II of an article by Paul Wood, Physician-in-Charge, Brompton Hospital. In British Med. Journ., May 15, 1954.

Part I appeared in the May 8th issue of the same journal. These two papers represent the lecture given before the San Francisco Heart Association on October 20, 1953. These two papers are too extensive for summarizing and will need to be read in their entirety to be fully appreciated. They represent quite a complete and detailed discussion of Mitral stenosis.

DISSEMINATED BREAST CANCER, Hormone Treatment. Ronald W. Raven, British Med. Journ. May 15, 1954.

Dissemination of breast cancer is one of the most distressing conditions which can face patient or surgeon. Anything which can lighten the darkness of this gloomy situation is welcome. Some patients are sensitive to variation

of their sex hormones, as shown by improvement after oophorectomy, adrenalectomy, and the administration of either the male or female hormone. This author reports on six patients who received benefit from hormone therapy, two of whom were in excellent health four and a half and five and a half years later.

ELECTROLYTE CHANGES IN THE BLOOD. Another in the series on "Clinical Pathology in General Practice." By Paul Fourman, in British Med. Journ., May 15, 1954. The general practitioner occasionally needs to become interested in the electrolytes, — usually regarded as a hospital procedure. This field of laboratory work is a terra incognita to the general practitioner (and incidentally to this reviewer), and this refresher article will, if he is interested, help to dispel his ignorance.

ONCOLOGY IN GENERAL PRACTICE. V. J. Dardin, M.D., Washington, D.C., Medical Times, May, 1954. The study of tumors, to the majority of general practitioners, is a mystifying one. Usually, after discovering the presence of a tumor, the patient is passed along quickly to some specialist. This article is not intended to be a complete, or even a thorough, study of tumors, but presents a few fundamental principles which are

useful in making this difficult subject more easy to understand.

HEART SYMPOSIUM. In November, 1951, and again in September, 1953, the Minnesota Heart Association, sponsored a symposium, first on Rheumatic Fever and then on Advance in Cardiovascular Physiology and Surgery. The imposing list of papers were published in three issues of Minnesota Medicine, but for convenience have recently been gathered together in a single reprint of 132 pages. This very valuable contribution is available in the Maricopa County Medical Library, as well as the three issues of Minnesota Medicine (January, February and March, 1954) containing them.

CANCER OF THE LUNG, Increase In. Harold F. Dorn, M.D., National Institute of Health, Bethesda, Md. Industrial Med. and Surg., June, 1954.

Cancer of the lung in men is a disease of major medical importance. It is now only exceeded by cancer of the stomach as a cause of death from malignancy in males. It accounts for nearly one out of three deaths from cancer among men between 50 and 60 years of age. There is every indication that this increase will continue.

LUPUS ERYTHEMATOSUS and the L. E. CELL. Wm. A. Wierpert, M.D., Acon, Conn. The Conn. State Med. Journ., June, 1954. The most important advance in the diagnosis of systemic lupus

erythematosus was the demonstration of the L. E. cell by Hargraves and associates in 1948. The technic of demonstrating this cell type, as well as a discussion of the disease, and the so called "L. E. phenomenon" are discussed in some detail.

A.C.T.H. AND CORTISONE, Long Term Therapy. McGehee and MacLean, British Med. Journ. May 22, 1954. These drugs have now assumed a most important place in the treatment of a number of diseases, such as the generalized collagen diseases, certain severe skin diseases, and some eye disorder. Treatment of 44 patients is described under four headings; (1) endocrine disorders, Addison's disease, hypopituitarism and congenital adrenal hyperplasia; (2) collagen diseases, polyarteritis nodosa, disseminated lupus erythematosus, subacute collagen disease, scleroderma, rheumatoid arthritis; (3) skin diseases, pemphigus, exfoliative psoriasis; (4) eye diseases, choroiditis, chronic iridocyclitis.

TREATMENT OF COMMON SKIN DISEASES. Herman Beerman, University of Penna., Depts. of Dermatology. Penna. Medical Journal, June, 1953.

Written for general practitioners, it outlines the general principles of treatment including the qualifications of the practitioner who aims to prescribe for skin diseases. Then he gets down to brass tacks with some practical outlines of treatment.

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